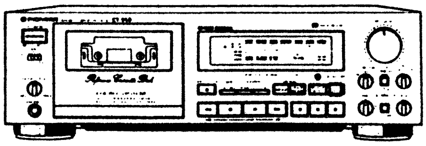
PIONEER CT757

MODEL

SERVICE MANUAL

PIONEER®
The future of sound and vision.

Service Manual



ORDER NO.
ARP2018

STEREO CASSETTE DECK

CT-959

CT–959 HAS FOLLOWING VERSIONS:

Type	Power requirement	Export destination
HEM	AC220V, 240V (switchable) ∗	European continent
HB	AC220V, 240V (switchable) ∗	United Kingdom

∗ Change the primary wiring of the power transformer.

- **This manual is applicable to the HEM and HB types.**
- **Ce manuel pour le service comprend les explications de réglage en français.**
- **Este manual de servicio trata del método ajuste escrito en español.**

CONTENTS

1. EXPLODED VIEWS AND PARTS LIST ········· 2
2. PACKING ········· 9
3. SCHEMATIC DIAGRAM ········· 10
4. BLOCK DIAGRAM ········· 16
5. P.C. BOARDS CONNECTION DIAGRAM ········· 17
6. P.C.B's PARTS LIST ········· 25
7. ADJUSTMENTS ········· 30
7. RÉGLAGES ········· 35
7. AJUSTES ········· 40
8. FOR HB TYPE ········· 45
9. PANEL FACILITIES ········· 46
10. SPECIFICATIONS ········· 49

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

© PIONEER ELECTRONIC CORPORATION 1990

SI APR. 1990 Printed in

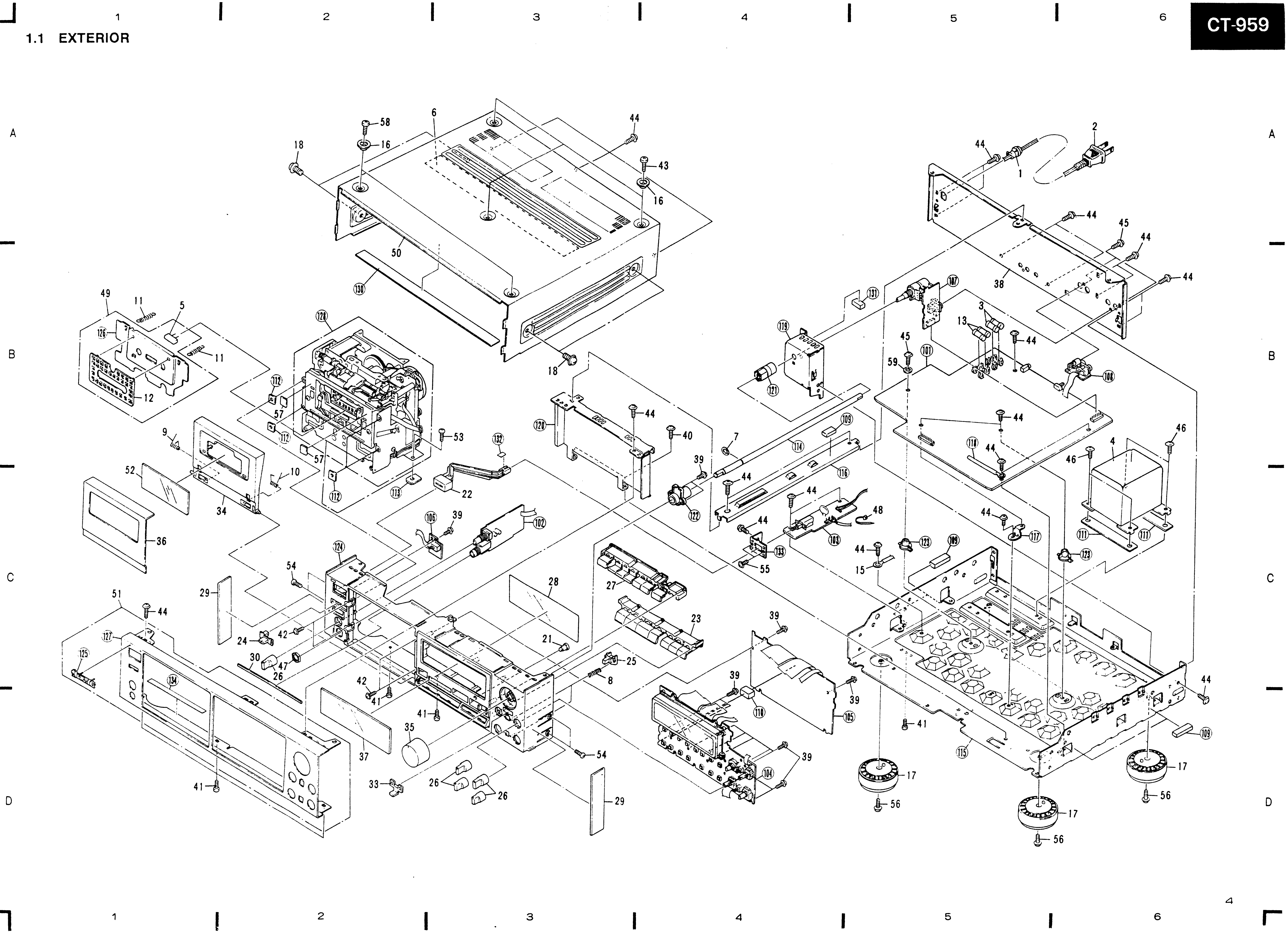
1. EXPLODED VIEWS AND PARTS LIST

NOTES :
- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

1.1 Parts List of Exterior

Mark	No.	Part No.	Description
⚠	1	CM−22B	Strain relife
⚠	2	ADG1036	AC power cord
⚠	3	REK−098	FU701, FU702 Fuse (630MA)
⚠	4	RTT1132	Power transformer (T1)
	5	SLF−401C	LED (D3)
	6	PNB1109	Absorber plate (B)
	7	RBF1019	Washer
	8	RBH1144	Button spring
	9	RBH1222	Door spring (L)
	10	RBH1223	Door spring (R)
	11	RBL−059	Cassette plate spring
	12	REB1038	Stabilizer (B)
⚠	13	REK−103	FU703, FU704 Fuse (2A)
	14		......
	15	RNH−184	Cord clamper
	16	ABE1009	Washer
	17	VXA1257	Insulator assembly
	18	FBT40P080FZK	Screw
	19		......
	20		......
	21	RAA1009	Counter reset knob
	22	RAC1410	Power button
	23	RAC1411	Function knob
	24	RAC1412	Slide SW knob
	25	RAC1413	Push knob
	26	RAC1414	Knob (B)
	27	RAC1415	Mode knob
	28	RAH1542	filter
	29	REB1094	Side rubber
	30	REB1119	Door sheet
	31		......
	32		......
	33	RNK1366	Line straight lens
	34	RNK1495	Door
	35	RXA1281	VR knob assembly (A)
	36	RAH1661	Door panel
	37	RLP1027	FL lens
	38	RNA1316	Rear panel
	39	ABZ26P080FZK	Screw
	40	BBT30P060FCC	Screw
	41	BBT30P100FZK	Screw
	42	BBZ30P100FZK	Screw
	43	BBZ40P080FZK	Screw
	44	IBZ30P060FCC	Screw
	45	IBZ30P100FCC	Screw
	46	IBZ40P080FCC	Screw
	47	RBN−006	Jack nut
	48	REC−371	Binder
	49	RXX1064	Cassette plate assembly
	50	RXX1279	Bonnet
	51	RXX1281	Front panel assembly
	52	RLP1026	Door lens
	53	BBT30P080FCU	Screw
	54	BBZ30P080FZK	Screw
	55	PMA30P060FCU	Screw
	56	IBZ30P150FCC	Screw
	57	REB1117	Door cushion
	58	BPZ40P100FZK	Screw
	59	WA30W120R100	Washer
	101		Main unit
	102		Headphone unit
	103		Power switch unit
	104		Operation unit
	105		Control unit
	106		Timer unit
	107		INPUT VR unit
	108		Pin jack unit
	109		Rubber spacer (A)
	110		Rubber spacer
	111		Transformer sheet
	112		Mechanism sheet
	113		Mechanism sheet (2)
	114		VR shaft
	115		Main chassis
	116		Center stay
	117		P.C.B base
	118		Binder
	119		VR holder
	120		FL shield plate
	121		Joint
	122		VR shaft guide
	123		P.C.B stad
	124		Panel stay
	125		Name plate
	126		Cassette plate
	127		Front panel
	128		Mechanism unit
	129		......
	130		Protector 300×10
	131		Cushion
	132		Acetate tape 10×10
	133		PS holder
	134		Acetate tape (K)

1.1 EXTERIOR


A
B
C
D

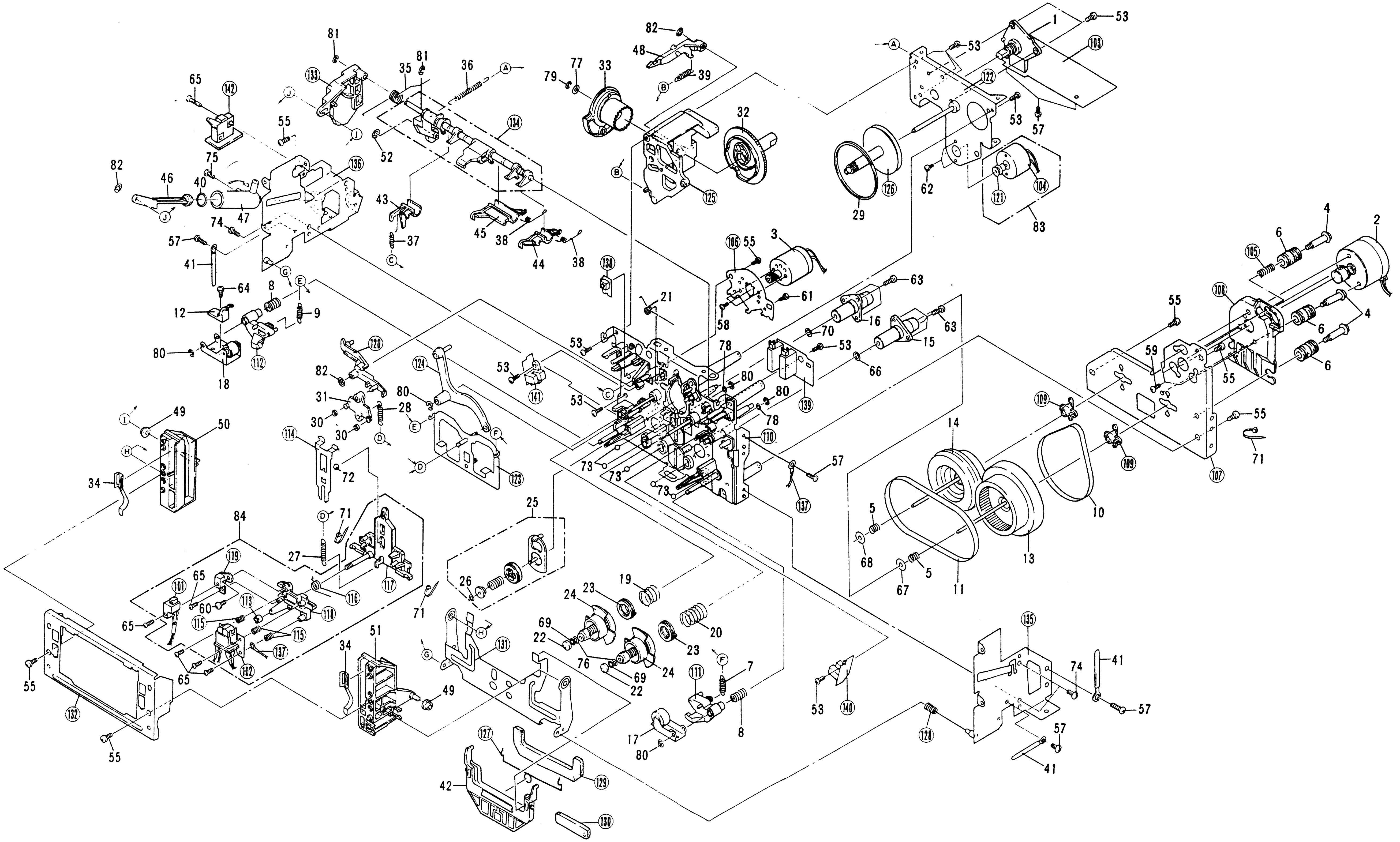
1.2 Parts List of Mechanism Section

Mark	No.	Part No.	Description
	1	RSX1004	Rotary encorder
	2	RXM1016	Capstan motor assembly
	3	RXM1018	Reel motor assembly
	4	RBA1074	Step screw
	5	RBL-044	Thrust spring
	6	REB1099	Insulator
	7	RBL-028	Pinch spring
	8	RBL-030	Pinch thrust spring
	9	RBL-098	Sub-pinch spring
	10	REB-501	Capstan belt
	11	REB-509	Capstan belt (A)
	12	RNL-016	Tape guide
	13	RXA1176	Flywheel assembly
	14	RXA1177	Sub-flywheel assembly
	15	RXA1342	Metal holder assembly (A)
	16	RXA1343	Metal holder assembly (B)
	17	RXB-876	Pinch roller arm (R) assembly
	18	RXB-877	Pinch roller arm (A) assembly
	19	RBL-031	BT spring (A)
	20	RBL-032	BT spring (B)
	21	RBL-033	Idler pressure spring
	22	RNK-815	Reel shaft cap (B)
	23	RXB-751	BT disk assembly
	24	RXB-874	Reel base assembly
	25	RXB-875	Take-up idler assembly
	26	RBF-065	Washer
	27	RBL-037	Head base spring
	28	RBL-038	Brake spring
	29	REB-502	Drive belt
	30	REB-511	Brake shoe
	31	RNL-723	Brake
	32	RNL-729	Cam gear
	33	RXB-884	Side cam gear assembly
	34	RBL-027	Pocket spring (A)
	35	RBL-039	Eject spring
	36	RBL-040	Half set arm spring
	37	RBL-041	REC functioning spring
	38	RBL-042	Detection functioning spring
	39	RBL-043	Lock lever spring
	40	REB-447	O ring
	41	RNH-184	Cord clamper
	42	RNK1498	Cassette plate
	43	RNL-733	REC detector arm
	44	RNL-734	Chrom detector arm
	45	RNL-735	Metal detector arm
	46	RNL-739	Piston
	47	RNL-740	Cylinder
	48	RNL-741	Lock lever
	49	RNL-742	Collar
	50	RNL-849	Pocket (L)
	51	RNL-850	Pocket (R)
	52	RBF-057	Washer
	53	BBZ26P080FZK	Screw
	54		......
	55	BBZ30P080FZK	Screw

Mark	No.	Part No.	Description
	56		......
	57	BCZ30P060FMC	Screw
	58	BMZ26P030FZK	Screw
	59	BMZ26P040FMC	Screw
	60	BMZ26P060FZK	Screw
	61	BMZ30P080FZK	Screw
	62	JGZ20P025FMC	Screw
	63	PMA26P050FZK	Screw
	64	PMA26P060FZK	Screw
	65	PMZ20P080FZK	Screw
	66	RBF-030	Oil stopper
	67	RBF-069	Thrust washer (A)
	68	RBF-070	Thrust washer (B)
	69	RBF-076	Washer
	70	RBF1040	Oil stopper
	71	REC-371	Binder
	72	REF-022	Steel ball (3mm)
	73	REF-023	Steel ball (4mm)
	74	VCT30P060FZK	Screw
	75	VCZ26P080FMC	Screw
	76	WA21D040D013	Washer
	77	WA26N070W040	Washer
	78	WA32D080D050	Washer
	79	YE20FUC	E ring
	80	YE25FUC	E ring
	81	YE30FUC	E ring
	82	YS24FBT	Snapring
	83	RXX1055	Power motor assembly
	84	RXX1228	Head base assembly
	101		E head
	102		R&P head
	103		Connector unit
	104		Power motor
	105		Insulator spring
	106		Reel motor mounting plate
	107		Flywheel holder
	108		Motor bracket
	109		Thrust holder
	110		Mechanism chassis assembly
	111		Pressure arm (R)
	112		Pressure arm (L)
	113		Adjustment nut
	114		Head base set spring
	115		Head adjustment spring (C)
	116		Hight spring
	117		Head base
	118		Sub-head base
	119		E head base
	120		Brake lever
	121		First pulley
	122		Gear chassis assembly
	123		Pinch base assembly
	124		Pinch lever assembly
	125		Gear base assembly

Mark	No.	Part No.	Description
	126		Second pulley assembly
	127		Cassette plate spring
	128		Position spring
	129		Plate rubber (A)
	130		Plate rubber (B)
	131		Door arm
	132		Pocket frame
	133		Eject lever
	134		Shift shaft assembly
	135		Door frame (R) assembly
	136		Door frame (L) assembly
	137		Earth lead assembly
	138		REC switch unit
	139		Tape selector unit
	140		Sensor unit (A)
	141		Sensor unit (B)
	142		Door switch unit

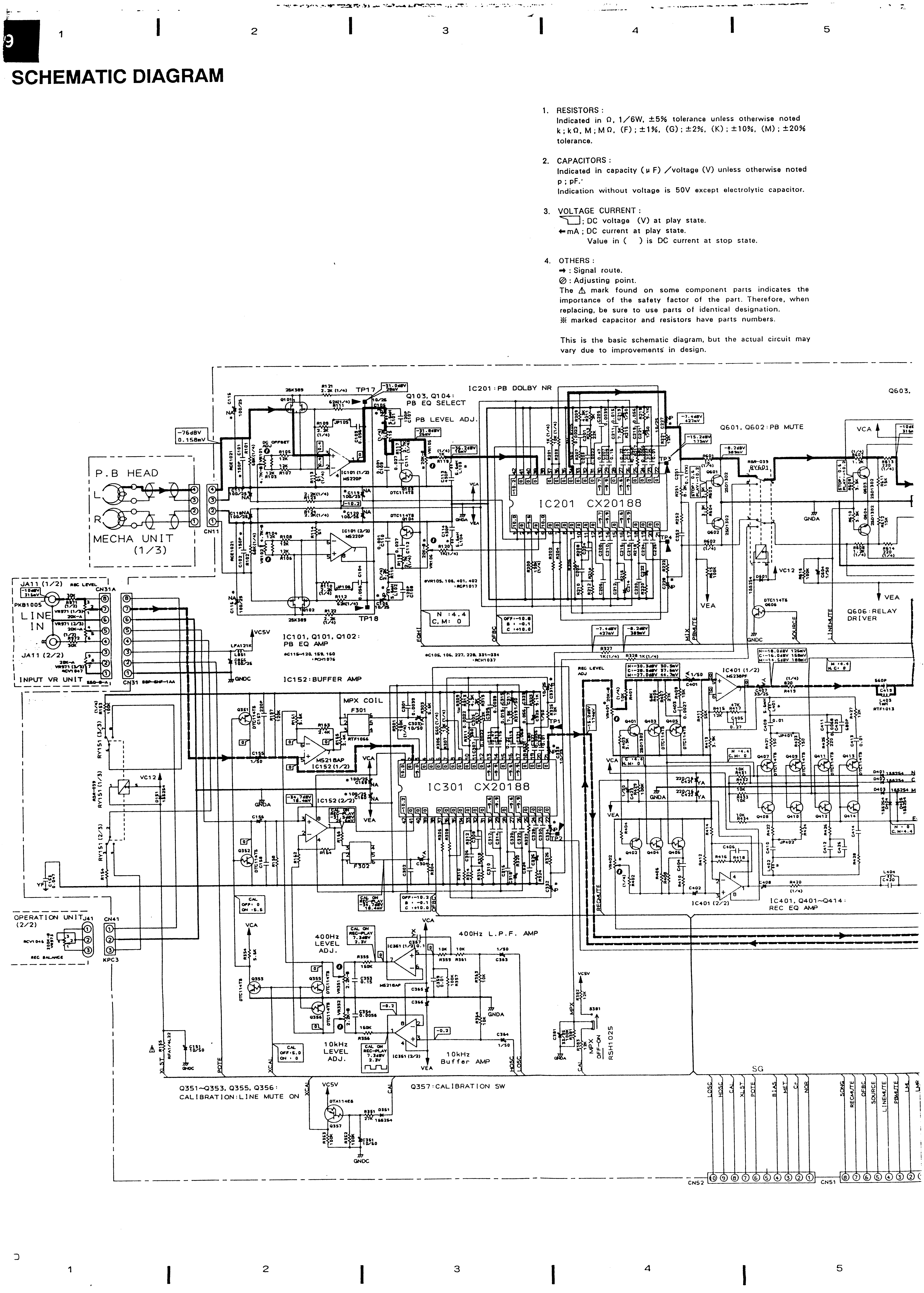
1.2 MECHANISM UNIT


1
2
3
4
5
6
A
B
C
D
81
35
81
36
Ⓐ
65
(142)
(133)
Ⓙ
55
Ⓘ
52
(134)
82
46
75
40
47
(136)
74
Ⓙ
57
41
43
37
Ⓒ
45
38
44
38
64
8
Ⓔ
9
12
Ⓖ
80
(112)
18
77
33
79
82
48
39
Ⓑ
32
Ⓑ
(125)
53
1
(103)
Ⓐ
53
(122)
53
57
29
(126)
62
(121)
(104)
83
(106)
55
3
63
21
(138)
61
58
70
16
63
15
53
78
80
80
66
(139)
78
53
53
Ⓒ
(141)
53
(124)
(120)
82
31
80
28
30
30
Ⓔ
Ⓓ
Ⓓ
(123)
Ⓕ
(114)
72
73
73
73
(110)
57
(137)
49
50
Ⓘ
Ⓗ
34
84
71
Ⓓ
27
(117)
(116)
(119)
65
60
(113)
(118)
(101)
65
(115)
(115)
(137)
(102)
65
55
(132)
55
25
26
71
19
23
24
69
22
20
23
76
69
22
24
Ⓕ
7
(111)
8
17
80
Ⓗ
Ⓖ
(131)
34
51
49
(127)
42
(129)
(130)
53
(140)
14
13
10
11
5
68
67
5
(109)
(109)
2
4
6
(105)
4
6
6
(108)
55
59
55
(107)
55
71
(135)
74
41
57
(128)
57
41

SCHEMATIC DIAGRAM

1. RESISTORS :
   Indicated in Ω, 1/6W, ±5% tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ±1%, (G) ; ±2%, (K) ; ±10%, (M) ; ±20% tolerance.
2. CAPACITORS :
   Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF.
   Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE CURRENT :
   ▭ ; DC voltage (V) at play state.
   ← mA ; DC current at play state.
   Value in ( ) is DC current at stop state.
4. OTHERS :
   → : Signal route.
   ⊘ : Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitor and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.


1
2
3
4
5
P.B HEAD
MECHA UNIT (1/3)
CN11
IC201:PB DOLBY NR
Q103, Q104: PB EQ SELECT
PB LEVEL ADJ.
TP17
TP18
IC201 CX20188
Q601, Q602:PB MUTE
Q603,
VCA
VEA
GNDA
GNDC
VC12
Q606:RELAY DRIVER
IC101, Q101, Q102: PB EQ AMP
IC152:BUFFER AMP
JA11 (1/2)
REC LEVEL
PKB1005
LINE IN
JA11 (2/2)
INPUT VR UNIT
CN31A
CN31
MPX COIL
F301
F302
IC301 CX20188
TP1
TP2
TP3
TP4
REC LEVEL ADJ
IC401 (1/2)
IC401 (2/2)
IC401, Q401~Q414: REC EQ AMP
OPERATION UNIT (2/2)
J41
CN41
KPC3
REC BALANCE
400Hz LEVEL ADJ.
400Hz L.P.F. AMP
10kHz LEVEL ADJ.
10kHz Buffer AMP
MPX OFF-ON
RSH1025
S381
Q351~Q353, Q355, Q356: CALIBRATION:LINE MUTE ON
Q357:CALIBRATION SW
SG
LOSC
HOSC
CAL
XLST
POTE
BIAS
MET
Cr
NOR
SONG
RECMUTE
OFBC
SOURCE
LINEMUTE
PBMUTE
CN52
CN51

5. SWITCHES (Underline indicates switch position)

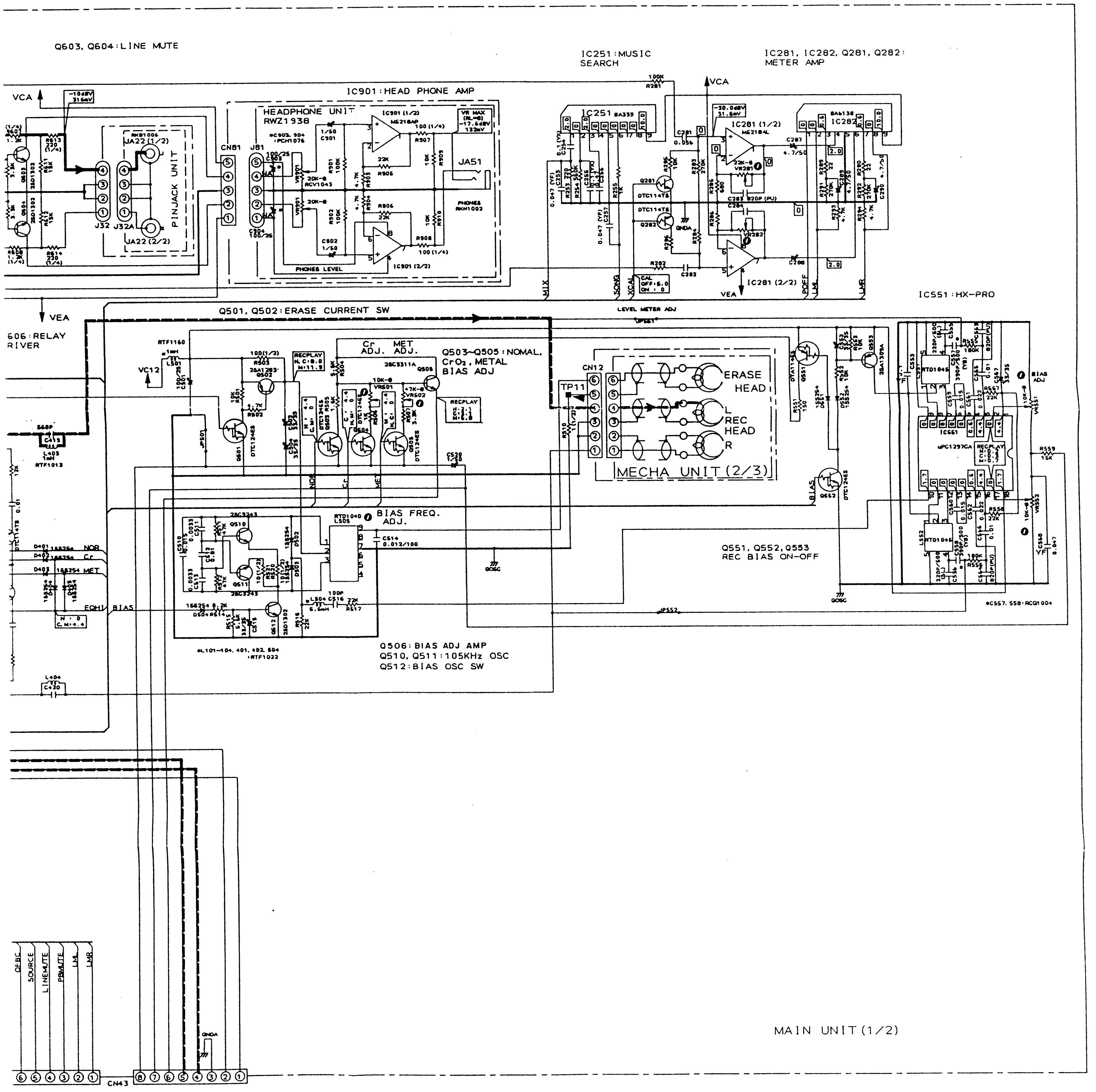
MAIN UNIT
S381:MPX FILTER OFF-ON

POWER SW UNIT
S991:POWER OFF-ON

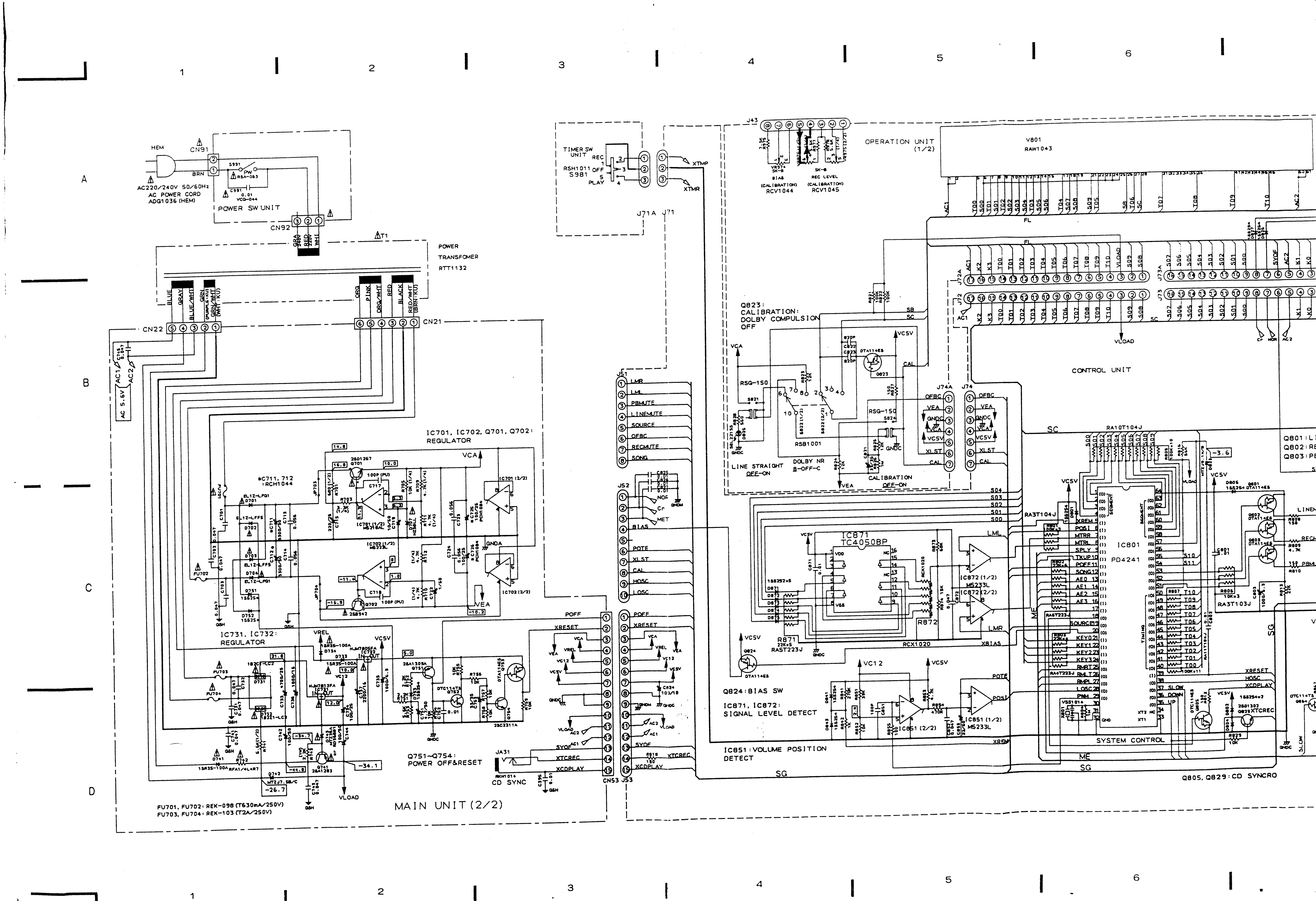
OPERATION UNIT
S801:MONITOR SELECT
S802:DISPLAY
S803: ❚❚
S804: ○
S805: ■
S806: ▶
S807: ▶▶
S808: ●
S809:OPEN/CLOSE
S810:TAPE RETURN
S811: ◀◀
S813:COUNTER MODE
S814:RESET
S815:CD SYNCHRO
S816:METER RANGE
S817:PEAK MODE
S821:LINE STRAIGHT OFF-ON
S822:DOLBY NR B-OFF-C
S824:CALIBRATION OFF-ON

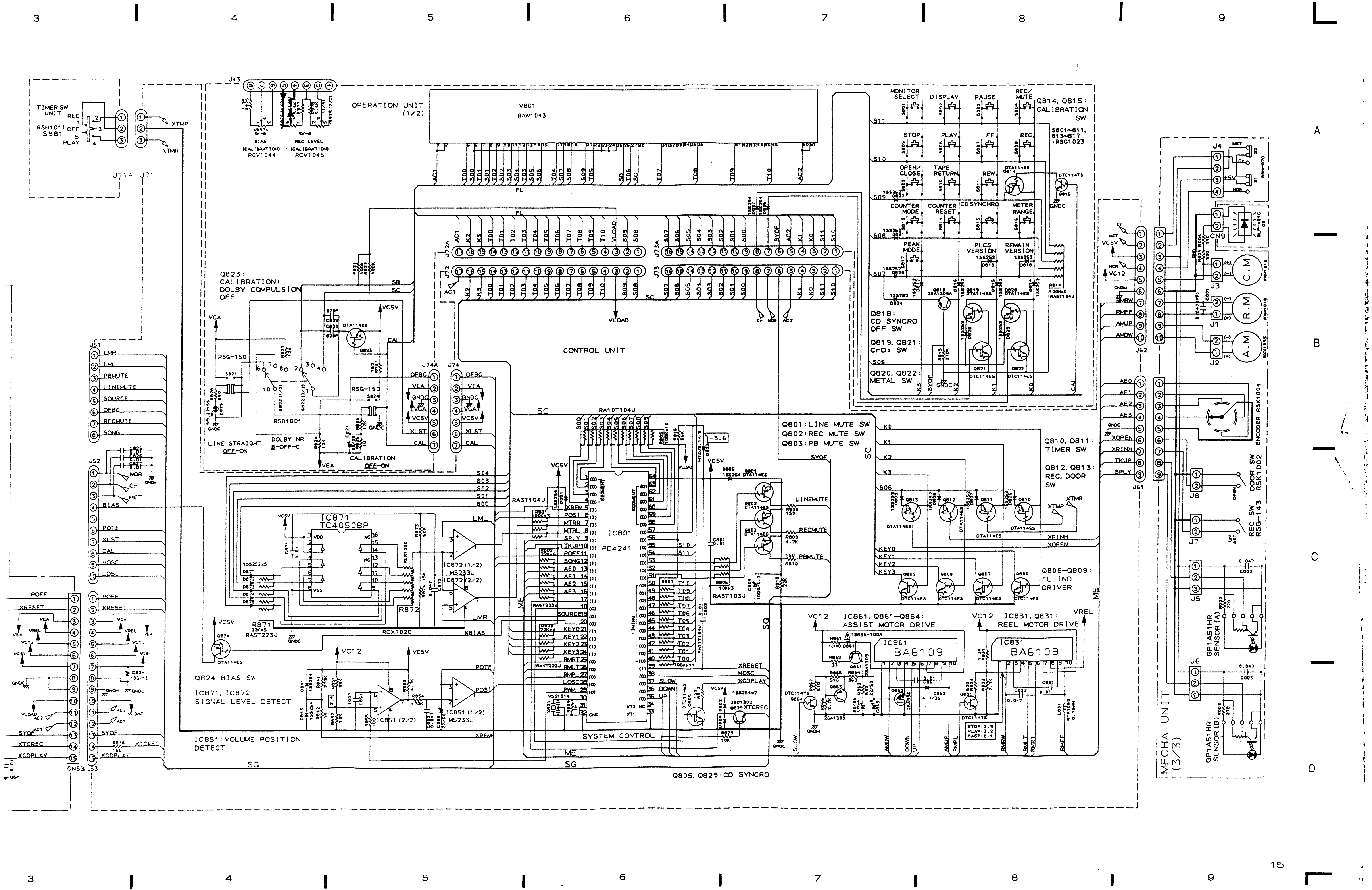
TIMER UNIT
S981:TIMER REC-OFF-PLAY/REPEAT

——— PLAYBACK
– – – – REC

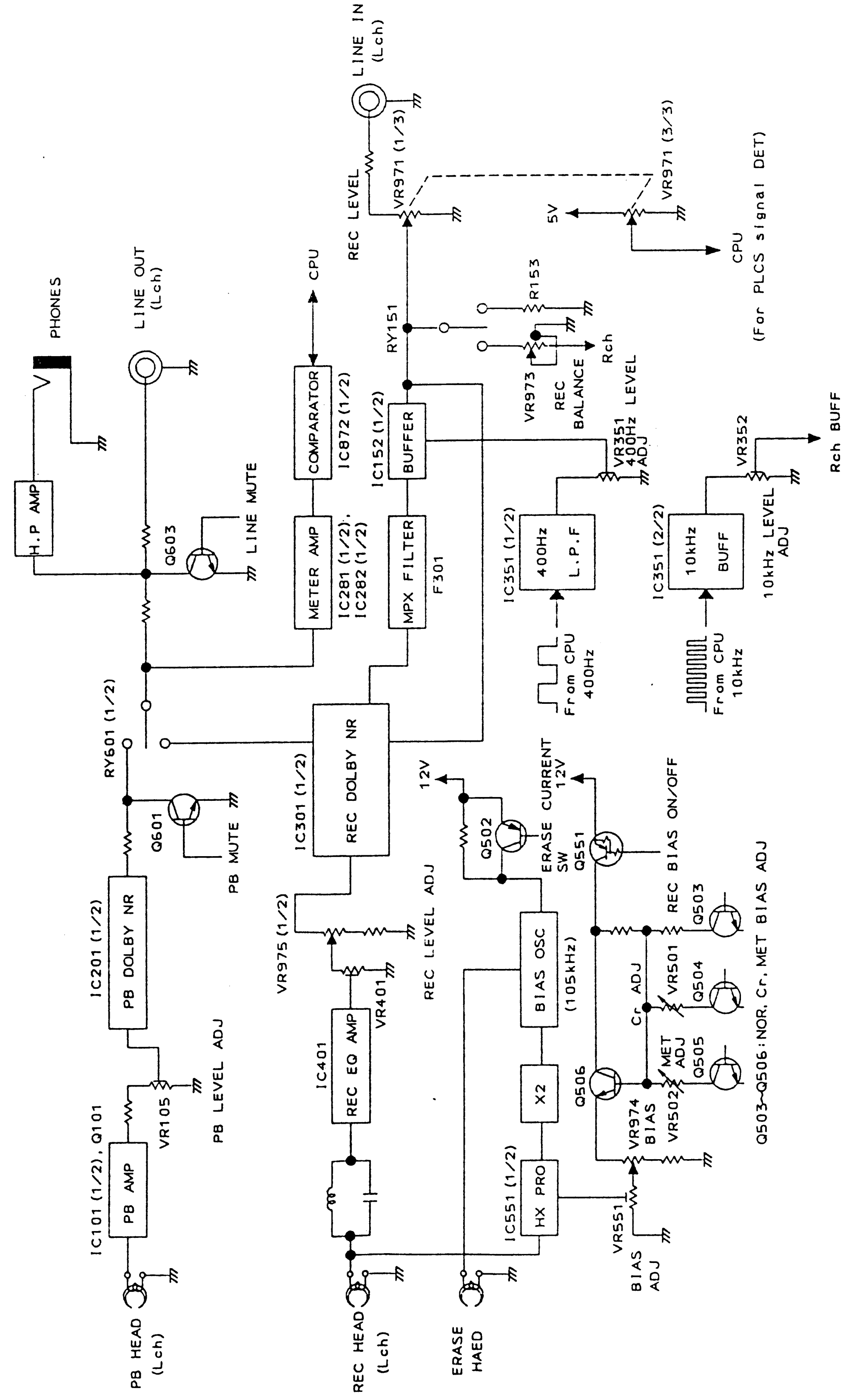

Q603, Q604:LINE MUTE
VCA
IC901:HEAD PHONE AMP
HEADPHONE UNIT
RWZ1938
PINJACK UNIT
JA22(1/2)
JA22(2/2)
J32
J32A
CN81
J81
JA51
PHONES LEVEL
IC901(1/2)
IC901(2/2)
IC251:MUSIC SEARCH
IC251 BA335
IC281, IC282, Q281, Q282: METER AMP
IC281(1/2)
IC281(2/2)
IC282
VR281
MIX
SONG
XCAL
LEVEL METER ADJ
POFF
LMR
VEA
Q501, Q502:ERASE CURRENT SW
606:RELAY
RIVER
VC12
RECPLAY
Cr MET ADJ. ADJ.
Q503~Q505:NOMAL, CrO2, METAL BIAS ADJ
CN12
TP11
ERASE HEAD
L REC HEAD R
MECHA UNIT(2/3)
BIAS
IC551:HX-PRO
μPC1297CA
BIAS ADJ
BIAS FREQ. ADJ.
Q551, Q552, Q553 REC BIAS ON-OFF
Q506:BIAS ADJ AMP
Q510, Q511:105KHz OSC
Q512:BIAS OSC SW
NOR
Cr
MET
EQH
GOSC
OFBC
SOURCE
LINEMUTE
PBMUTE
LMR
LML
GNDA
CN43
MAIN UNIT(1/2)

B
C
D
E
F


HEM
CN91
AC220/240V 50/60Hz
AC POWER CORD
ADG1036 (HEM)
S991
PW
RSA-063
C991 0.01 VCG-044
POWER SW UNIT
CN92
T1
POWER TRANSFOMER RTT1132
CN22
CN21
AC 5.6V
AC1
AC2
IC701, IC702, Q701, Q702: REGULATOR
*C711, 712 : RCH1044
IC731, IC732: REGULATOR
Q751–Q754: POWER OFF&RESET
JA31
CD SYNC
FU701, FU702: REK-098 (T630mA/250V)
FU703, FU704: REK-103 (T2A/250V)
MAIN UNIT (2/2)
CN53
J53
TIMER SW UNIT
RSH1011
S981
REC
OFF
PLAY
XTMP
XTMR
J71A
J71
J51
LMR
LML
PBMUTE
LINEMUTE
SOURCE
OFBC
RECMUTE
SONG
J52
NOR
Cr
MET
BIAS
POTE
XLST
CAL
HOSC
LOSC
POFF
XRESET
VCA
VREL
VEA
VC12
VC5V
GNDC
VLOAD
SYOF
XTCREC
XCDPLAY
J43
VR974 SK-B BIAS (CALIBRATION) RCV1044
SK-B REC LEVEL (CALIBRATION) RCV1045
OPERATION UNIT (1/2)
V801
RAW1043
FL
J72A
J72
J73A
J73
Q823: CALIBRATION: DOLBY COMPULSION OFF
RSG-150
S821
S822
S824
RSB1001
LINE STRAIGHT OFF–ON
DOLBY NR B–OFF–C
CALIBRATION OFF–ON
J74A
J74
CONTROL UNIT
SC
RA10T104J
IC801
PD4241
IC871
TC4050BP
IC872 (1/2) M5233L
IC872 (2/2)
R871 22K×5 RAST223J
R872
RCX1020
IC851 (1/2) M5233L
IC851 (2/2)
Q824: BIAS SW
IC871, IC872: SIGNAL LEVEL DETECT
IC851: VOLUME POSITION DETECT
SG
ME
SYSTEM CONTROL
Q801: L
Q802: RE
Q803: PE
Q805, Q829: CD SYNCRO
RA3T104J
RA3T103J
1
2
3
4
5
6
A
B
C
D

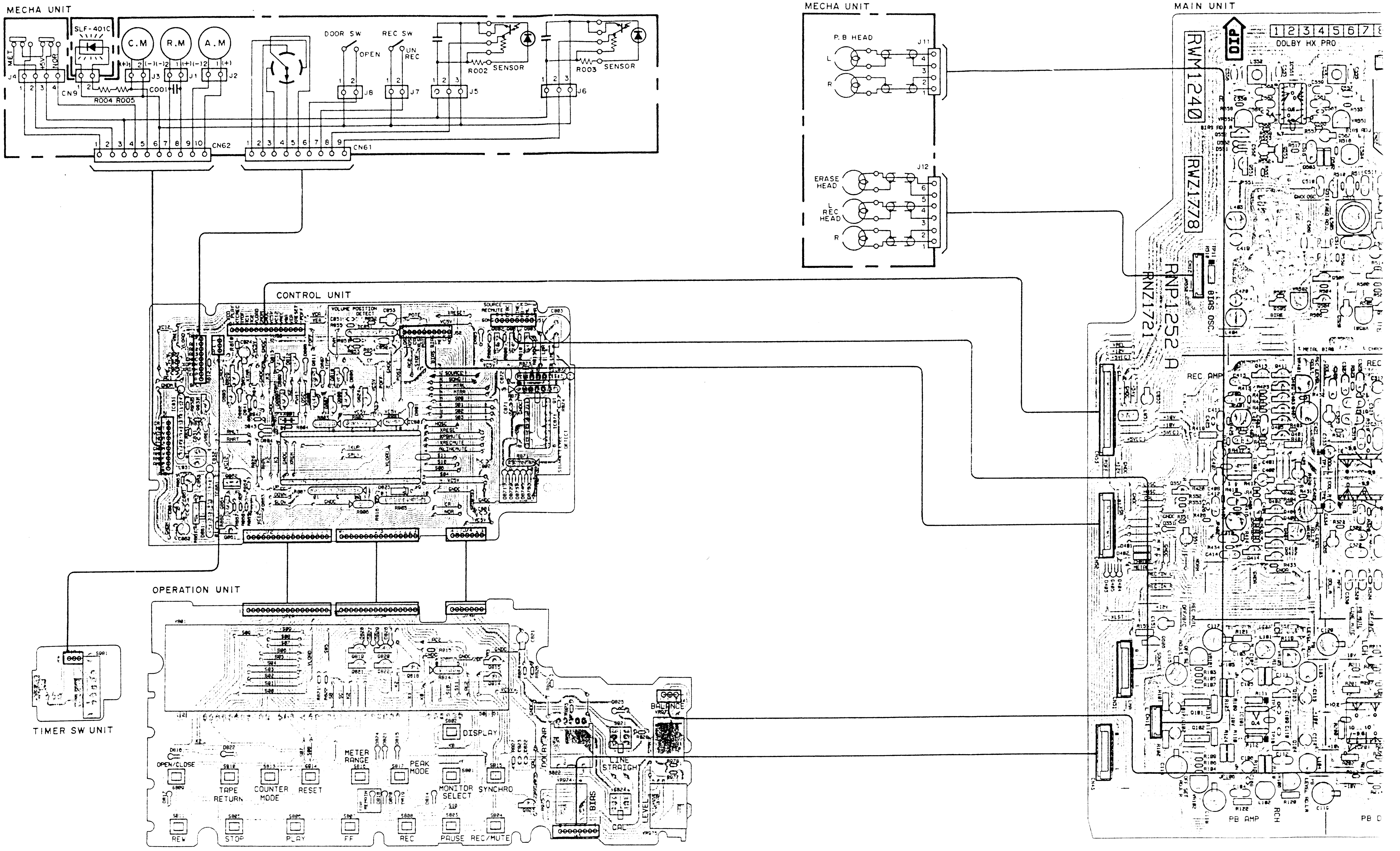

TIMER SW UNIT
RSH1011 S981
REC
OFF
PLAY
XTMP
XTMR
J71A
J71
J43
BIAS (CALIBRATION) RCV1044
REC LEVEL (CALIBRATION) RCV1045
OPERATION UNIT (1/2)
V801 RAW1043
FL
CONTROL UNIT
VLOAD
Q823: CALIBRATION: DOLBY COMPULSION OFF
RSG-150
RSB1001
LINE STRAIGHT OFF-ON
DOLBY NR B-OFF-C
CALIBRATION OFF-ON
J72A
J72
J73A
J73
J74A
J74
J51
LMR
LML
PBMUTE
LINEMUTE
SOURCE
OFBC
RECMUTE
SONG
J52
NOR
Cr
MET
BIAS
POTE
XLST
CAL
HOSC
LOSC
POFF
XRESET
VCA
VREL
VEA
VC12
VC5V
VLOAD
AC2
SYOF
XTCREC
XCDPLAY
CN53
J53
IC871 TC4050BP
IC872 (1/2) M5233L
IC872 (2/2)
RCX1020
R871 22K×5 RAST223J
Q824
Q824: BIAS SW
IC871, IC872 SIGNAL LEVEL DETECT
IC851 (2/2)
IC851 (1/2) M5233L
IC851: VOLUME POSITION DETECT
RA10T104J
RA3T104J
IC801 PD4241
SYSTEM CONTROL
ME
SG
SC
RA3T103J
Q801: LINE MUTE SW
Q802: REC MUTE SW
Q803: PB MUTE SW
Q805, Q829: CD SYNCRO
MONITOR SELECT
DISPLAY
PAUSE
REC/MUTE
Q814, Q815: CALIBRATION SW
S801~811, 813~817: RSG1023
STOP
PLAY
FF
REC
OPEN/CLOSE
TAPE RETURN
REW
COUNTER MODE
COUNTER RESET
CD SYNCHRO
METER RANGE
PEAK MODE
PLCS VERSION
REMAIN VERSION
Q818: CD SYNCRO OFF SW
Q819, Q821: CrO2 SW
Q820, Q822: METAL SW
Q810, Q811: TIMER SW
Q812, Q813: REC, DOOR SW
Q806~Q809: FL IND DRIVER
KEY0
KEY1
KEY2
KEY3
XRINH
XOPEN
VC12 IC861, Q861~Q864: ASSIST MOTOR DRIVE
IC861 BA6109
VC12 IC831, Q831: REEL MOTOR DRIVE
IC831 BA6109
VREL
STOP: 2.9 PLAY: 3.2 FAST: 6.1
AMDW
DOWN
UP
AMUP
RMPL
RMRW
RMLT
RMRT
RMFF
J62
J61
AE0
AE1
AE2
AE3
XOPEN
XRINH
TKUP
SPLY
J4
CN9
J3
J1
J2
C.M
R.M
A.M
ENCODER RSX1004
J8
DOOR SW RSK1002
J7
REC SW RSG-143
J5
GP1A51HR SENSOR (A)
J6
GP1A51HR SENSOR (B)
MECHA UNIT (3/3)
3
4
5
6
7
8
9
A
B
C
D

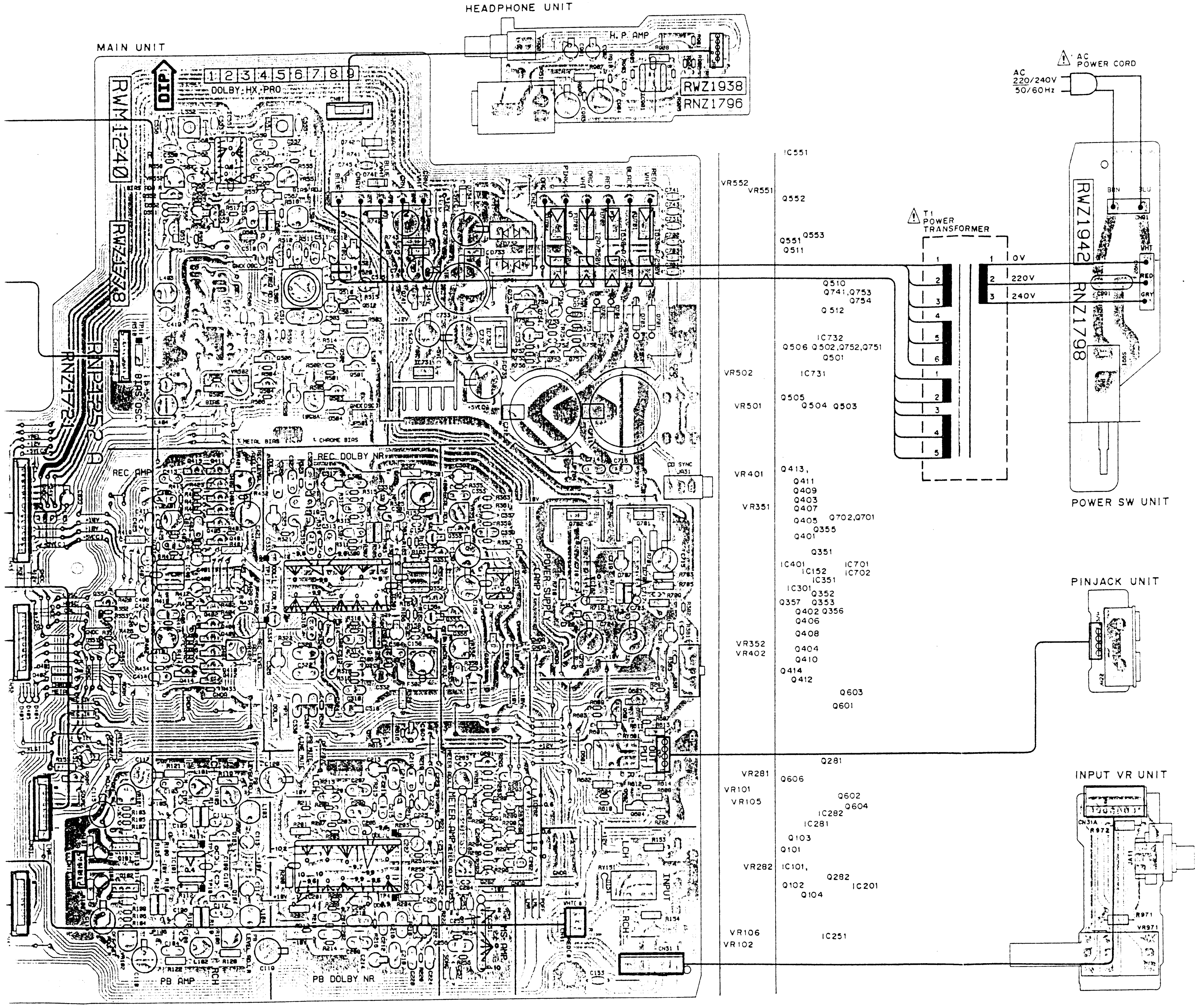
4. BLOCK DIAGRAM

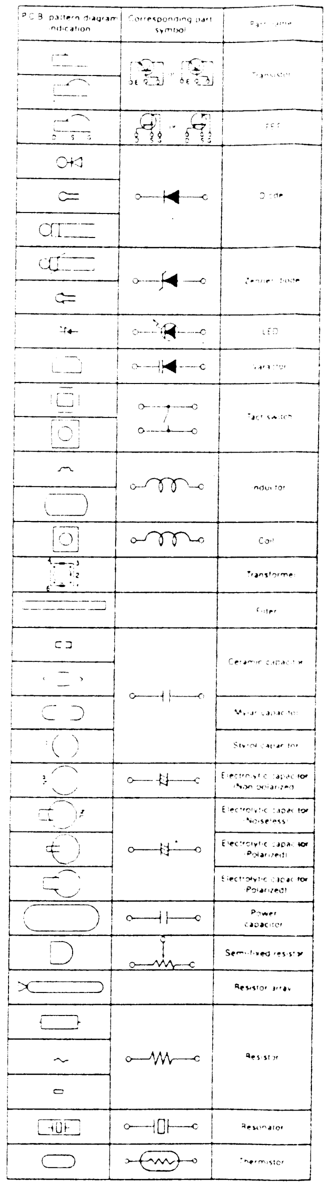

PB HEAD (Lch)
IC101 (1/2), Q101
PB AMP
VR105
PB LEVEL ADJ
IC201 (1/2)
PB DOLBY NR
Q601
PB MUTE
RY601 (1/2)
H.P AMP
PHONES
LINE OUT (Lch)
Q603
LINE MUTE
METER AMP
IC281 (1/2), IC282 (1/2)
COMPARATOR
IC872 (1/2)
CPU
MPX FILTER
F301
BUFFER
IC152 (1/2)
RY151
REC LEVEL
VR971 (1/3)
LINE IN (Lch)
VR971 (3/3)
5V
CPU
(For PLCS signal DET)
R153
VR973
REC BALANCE
Rch
VR351 400Hz LEVEL ADJ
IC351 (1/2)
400Hz L.P.F
From CPU 400Hz
IC351 (2/2)
10kHz BUFF
From CPU 10kHz
VR352
10kHz LEVEL ADJ
Rch BUFF
IC301 (1/2)
REC DOLBY NR
VR975 (1/2)
REC LEVEL ADJ
VR401
IC401
REC EQ AMP
REC HEAD (Lch)
ERASE HAED
12V
Q502
ERASE CURRENT SW
12V
Q551
REC BIAS ON/OFF
BIAS OSC (105kHz)
X2
IC551 (1/2)
HX PRO
VR551
BIAS ADJ
Q506
VR974 BIAS
VR501
Cr ADJ
VR502
MET ADJ
Q503
Q504
Q505
REC
Q503~Q506:NOR, Cr, MET BIAS ADJ

5. P.C. BOARDS CONNECTION DIAGRAM

- View from component side


MECHA UNIT
SLF-401C
C.M
R.M
A.M
MET
+5V
J4
J3
J1
J2
CN9
R004 R005
C001
DOOR SW
OPEN
REC SW
UN REC
R002
SENSOR
R003
SENSOR
J8
J7
J5
J6
CN62
CN61
MECHA UNIT
P.B HEAD
L
R
J11
J12
ERASE HEAD
L
REC HEAD
R
MAIN UNIT
DIP
DOLBY HX PRO
RWM1240
RWZ1778
RNP1252 A
RNZ1721
BIAS OSC.
REC AMP
PB AMP
RCH
CONTROL UNIT
VOLUME POSITION DETECT
SOURCE
OPERATION UNIT
TIMER SW UNIT
S901
DISPLAY
OPEN/CLOSE
TAPE RETURN
COUNTER MODE
RESET
METER RANGE
PEAK MODE
MONITOR SELECT
SYNCHRO
REW
STOP
PLAY
FF
REC
PAUSE
REC/MUTE
BALANCE
LINE STRAIGHT
BIAS
CAL
LEVEL

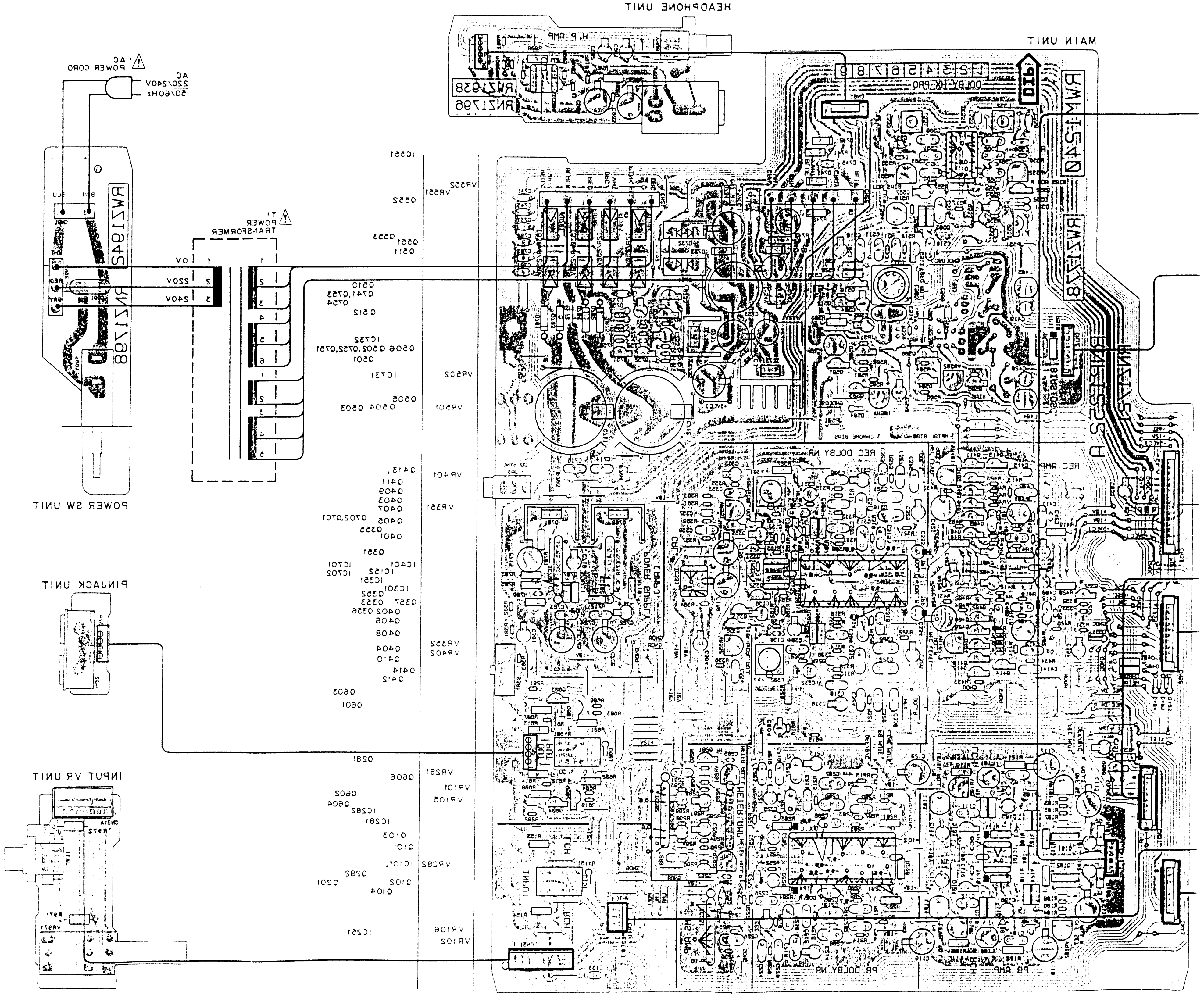

HEADPHONE UNIT
H. P. AMP
RWZ1938
RNZ1796
MAIN UNIT
DIP
1 2 3 4 5 6 7 8 9
DOLBY HX PRO
RWM1240
RWZ1778
RNP1252-A
RNZ1721
BIAS OSC
METAL BIAS
CHROME BIAS
REC AMP
REC DOLBY NR
POWER SUPPLY
METER AMP
PB AMP
PB DOLBY NR
INPUT
LCH
RCH
AC POWER CORD
AC 220/240V 50/60Hz
T1 POWER TRANSFORMER
1 2 3 4 5 6
0V
220V
240V
RWZ1942
RNZ1798
BRN
BLU
WHT
RED
GRY
POWER SW UNIT
PINJACK UNIT
INPUT VR UNIT
R972
R971
VR971
IC551
VR552
VR551
Q552
Q551
Q553
Q511
Q510
Q741,Q753
Q754
Q512
IC732
Q506 Q502,Q752,Q751
Q501
VR502
IC731
VR501
Q505
Q504 Q503
VR401
Q413,
Q411
Q409
Q403
VR351
Q407
Q405
Q702,Q701
Q355
Q401
Q351
IC401
IC152
IC701
IC702
IC351
IC301
Q352
Q357
Q353
Q402 Q356
Q406
Q408
VR352
VR402
Q404
Q410
Q414
Q412
Q603
Q601
Q281
VR281
Q606
VR101
Q602
VR105
Q604
IC282
IC281
Q103
Q101
VR282
IC101,
Q282
Q102
IC201
Q104
VR106
VR102
IC251



P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styrol capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (Noiseless)
		Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

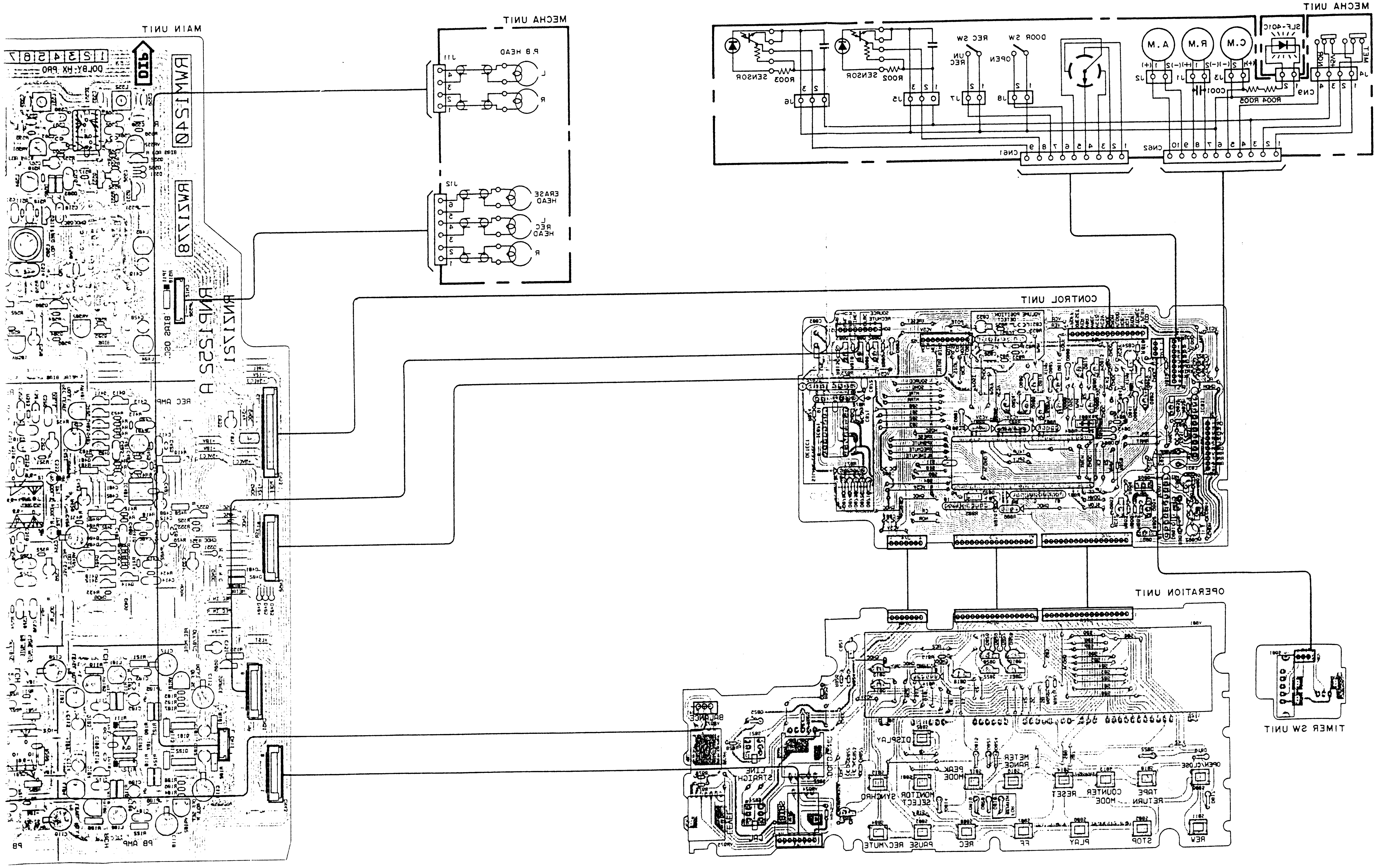
1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ▭ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.

[redacted]


12
11
10
9
8
7
A
B
C
D
HEADPHONE UNIT
H.P. AMP
MAIN UNIT
AC POWER CORD
AC 220/240V 50/60Hz
T1 POWER TRANSFORMER
0V
220V
240V
POWER SW UNIT
PINJACK UNIT
INPUT VR UNIT
REC DOLBY NR
REC AMP
PB DOLBY NR
PB AMP
POWER AMP
DOLBY HX-PRO

5. P.C. BOARDS CONNECTION DIAGRAM

- View from soldering side


MECHA UNIT
MAIN UNIT
MECHA UNIT
P.B HEAD
L
R
J11
J12
ERASE HEAD
L REC HEAD
R
SENSOR R003
SENSOR R002
REC SW
DOOR SW
UN REC
OPEN
C.M
R.M
A.M
SLF-401C
REW
NOR
MET
J6
J5
J7
J8
J2
J1
J3
J4
CN9
C001
R004 R005
CN61
CN62
CONTROL UNIT
OPERATION UNIT
TIMER SW UNIT
DOLBY-HX PRO
RNZ1ZNP15ZS U
BIAS OSC
REC AMP
PB AMP
PB
DISPLAY
LINE STRAIGHT
PEAK MODE
METER RANGE
OPEN/CLOSE
SYNCHRO
MONITOR SELECT
RESET
COUNTER MODE
TAPE RETURN
REC/MUTE
PAUSE
REC
FF
PLAY
STOP
REW
A
B
C
D

6. P.C.B's PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%)

560 Ω → 56 × 10^1 → 561 ································ RD1/4PS $\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47 × 10^3 → 473 ································ RD1/4PS $\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 ·· RN2H $\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 010 ·· RS1P $\boxed{0}\boxed{1}\boxed{0}$K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10^1 → 5621 ································ RN1/4SR $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

Mark	No. Symbol & Description	Part No.

PIN JACK UNIT

OTHERS

Mark	No. Symbol & Description	Part No.
	JA22 JACK	PKB1006

REC SWITCH UNIT

SWITCHES

Mark	No. Symbol & Description	Part No.
	S3 SWITCH	RSG-143

TAPE SELECTOR UNIT

SWITCHES

Mark	No. Symbol & Description	Part No.
	S1, 2	RSH-070

CONNECTOR UNIT

CAPACITORS

Mark	No. Symbol & Description	Part No.
	C1	CKCYF473Z50

RESISTORS

Mark	No. Symbol & Description	Part No.
	R4, 5 CARBONFILM RESISTOR	RD1/6PM☐☐☐J

SENSOR UNIT(A)

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	D1	GP1A51HR

CAPACITORS

Mark	No. Symbol & Description	Part No.
	C2	CKPUYY103N16

RESISTORS

Mark	No. Symbol & Description	Part No.
	R2 CARBONFILM RESISTOR	RD1/6PM☐☐☐J

SENSOR UNIT(B)

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	D2	GP1A51HR

CAPACITORS

Mark	No. Symbol & Description	Part No.
	C3	CKPUYY103N16

RESISTORS

Mark	No. Symbol & Description	Part No.
	R3 CARBONFILM RESISTOR	RD1/6PM☐☐☐J

Mark	No. Symbol & Description	Part No.

DOOR SWITCH UNIT

SWITCHES

Mark	No. Symbol & Description	Part No.
	S4	RSK1002

MAIN UNIT

SEMICONDUCTORS

Mark	No. Symbol & Description	Part No.
	IC101	M5220P
	IC152 OP-AMP, IC	M5218AP
	IC201	CX20188
	IC251	BA335
	IC281	M5218AL
	IC282	BA6138
	IC301	CX20188
	IC351 OP-AMP, IC	M5218AP
	IC401	M5238PF
	IC551	UPC1297CA
	IC701	M5218AL
	IC702	M5223L
⚠	IC731	NJM7812FA
⚠	IC732	NJM7805FA
	Q101, 102 N-DUAL-FET	2SK389
	Q103, 104 DIGITAL TRANSISTOR	DTC114TS
	Q281, 282 DIGITAL TRANSISTOR	DTC114TS
	Q351-353 DIGITAL TRANSISTOR	DTC114TS
	Q355, 356 DIGITAL TRANSISTOR	DTC114TS
	Q357	DTA114ES
	Q401, 402 TRANSISTOR	2SD1302
	Q403-414 DIGITAL TRANSISTOR	DTC114TS
	Q501 TRANSISTOR	DTC124ES
	Q502	2SA1283
	Q503-505 TRANSISTOR	DTC124ES
	Q506 TRANSISTOR	2SC3311A
	Q510, 511	2SC3243
	Q512 TRANSISTOR	2SD1302
	Q551	DTA114ES
	Q552 TRANSISTOR	DTC124ES
	Q553 TRANSISTOR	2SA1309A

Mark	No.	Symbol & Description	Part No.
	Q601-604	TRANSISTOR	2SD1302
	Q606	DIGITAL TRANSISTOR	DTC114TS
⚠	Q701		2SD1267
⚠	Q702	TRANSISTOR	2SB942
⚠	Q741		2SA1283
	Q751	TRANSISTOR	2SA1309A
	Q752	DIGITAL TRANSISTOR	DTC114TS
	Q753		DTA114ES
	Q754	TRANSISTOR	2SC3311A
	D151	DIODE	1SS254
	D351	DIODE	1SS254
	D401-405	DIODE	1SS254
	D502-504	DIODE	1SS254
	D551, 552	DIODE	1SS254
	D601	DIODE	1SS254
⚠	D701		EL1Z-LFG1
⚠	D702, 703		EL1Z-LFF5
⚠	D704		EL1Z-LFG1
⚠	D707		HZ5BLL
⚠	D731		1B2C1-LC2
⚠	D732		1B2Z1-LC2
⚠	D733, 734		1SR35-100A
⚠	D741		1SR35-100A
	D742		MTZJ7.5B
⚠	D743		MTZ36A
	D751-753	DIODE	1SS254

SWITCHES

Mark	No.	Symbol & Description	Part No.
	S381	(MPX FILTER)	RSH1025

RELAYS

Mark	No.	Symbol & Description	Part No.
	RY151	RELAY	RSR-039
	RY601	RELAY	RSR-039

COILS/TRANSFORMERS

Mark	No.	Symbol & Description	Part No.
	L101-104		RTF1022
	L401, 402		RTF1022
	L403, 404		RTF1013
	L501		RTF1160
	L504		RTF1022
	L505		RTD1040
	L551, 552		RTD1045
	L851	RADIAL INDUCTOR	LFA121K
	F301, 302	FILTER	RTF1066

CAPACITORS

Mark	No.	Symbol & Description	Part No.
	C101, 102		RCE1021
	C103, 104		CFTXA563J50
	C105, 106		RCH1037
	C107, 108		CKPUYB121K50
	C109, 110		CKPUYB102K50
	C111, 112		CFTXA273J50
	C113, 114	PL. STYRENE CAPACITOR	CQSA431J50
	C115-120	ELECTR. CAPACITOR	PCH1076
	C151	ELECTR. CAPACITOR	CEYA100M50
	C153	CERAMIC CAPACITOR	CKCYF473Z50
	C155, 156	ELECTR. CAPACITOR	CEYA010M50
	C157, 158	AXIAL CAPACITOR	CKPUYB221K50
	C159, 160	ELECTR. CAPACITOR	PCH1076
	C201-204		CFTXA222J50
	C205, 206		CFTXA392J50
	C207, 208	AUDIO FILM CAPACITOR	CFTXA474J50
	C209, 210	AUDIO FILM CAPACITOR	CFTXA154J50
	C211, 212		CFTXA153J50
	C213, 214	ELECTR. CAPACITOR	CEYA010M50
	C215, 216	AUDIO FILM CAPACITOR	CFTXA224J50
	C217, 218	AUDIO FILM CAPACITOR	CFTXA683J50
	C219, 220		CFTXA563J50
	C221, 222	ELECTR. CAPACITOR	CEYA010M50
	C223, 224		CFTXA562J50
	C225, 226	AUDIO FILM CAPACITOR	CFTXA103J50
	C227, 228		RCH1037
	C251, 252	CERAMIC CAPACITOR	CGCYX104K25
	C253	CERAMIC CAPACITOR	CKCYF473Z50
	C254, 255	CERAMIC CAPACITOR	CGCYX104K25
	C256	AUDIO FILM CAPACITOR	CFTXA474J50
	C257	CERAMIC CAPACITOR	CKCYF473Z50
	C281, 282		CFTXA563J50
	C283, 284	AXIAL CAPACITOR	CKPUYB821K50
	C287-290	ELECTR. CAPACITOR	CEAS4R7M50
	C301, 302		CFTXA392J50
	C303, 304	ELECTR. CAPACITOR	CEYA100M50
	C305-308		CFTXA222J50
	C309, 310		CFTXA392J50
	C311, 312	AUDIO FILM CAPACITOR	CFTXA474J50
	C313, 314	AUDIO FILM CAPACITOR	CFTXA154J50
	C315, 316		CFTXA153J50
	C317, 318	ELECTR. CAPACITOR	CEYA010M50
	C319, 320	AUDIO FILM CAPACITOR	CFTXA224J50
	C321, 322	AUDIO FILM CAPACITOR	CFTXA683J50
	C323, 324		CFTXA563J50
	C325, 326	ELECTR. CAPACITOR	CEYA010M50
	C327, 328		CFTXA562J50
	C329, 330	AUDIO FILM CAPACITOR	CFTXA103J50
	C331-334		RCH1037
	C351	ELECTR. CAPACITOR	CEYA100M50
	C353	AUDIO FILM CAPACITOR	CFTXA154J50
	C354		CFTXA562J50
	C357	CERAMIC CAPACITOR	CGCYX104K25
	C359	AUDIO FILM CAPACITOR	CFTXA103J50
	C363, 364	ELECTR. CAPACITOR	CEYA010M50
	C381	ELECTR. CAPACITOR	CEAS330M35
	C395		CKPUYY103M16
	C401, 402	ELECTR. CAPACITOR	CEYA010M50
	C403, 404		CFTXA272J50
	C405, 406		CFTXA274J50
	C407, 408	ELECTR. CAPACITOR	CEYA330M25
	C409, 410	AUDIO FILM CAPACITOR	CFTXA103J50
	C411, 412		CFTXA682J50
	C413, 414	AUDIO FILM CAPACITOR	CFTXA103J50
	C419, 420	PL. STYRENE CAPACITOR	CQSA561J50
	C421, 422	ELECTR. CAPACITOR	CEYA221M16
	C423	ELECTR. CAPACITOR	CEYA010M50
	C425, 426	AXIAL CAPACITOR	CKPUYB681K50
	C501	ELECTR. CAPACITOR	CEAS101M25
	C503, 504	ELECTR. CAPACITOR	CEAS330M35
	C510		CFTXA153J50
	C511	AUDIO FILM CAPACITOR	CFTXA332J50
	C512	AUDIO FILM CAPACITOR	CFTXA103J50
	C513	AUDIO FILM CAPACITOR	CFTXA332J50
	C514		CQPA123J100
	C515	ELECTR. CAPACITOR	CEAS330M35
	C516	AXIAL CAPACITOR	CKPUYB101K50
	C520	ELECTR. CAPACITOR	CEYA010M50
	C552	ELECTR. CAPACITOR	CEAS330M35
	C553	CERAMIC CAPACITOR	CGCYX104K25
	C555, 556	CERAMIC CAPACITOR	CCCSL221K500
	C557, 558	CERAMIC CAPACITOR	RCG1004
	C559, 560		CFTXA153J50
	C561, 562	AUDIO FILM CAPACITOR	CFTXA223J50
	C563, 564	AXIAL CAPACITOR	CKPUYB821K50
	C565, 566	AUDIO FILM CAPACITOR	CFTXA103J50
	C567	ELECTR. CAPACITOR	CEAS330M35
	C568	CERAMIC CAPACITOR	CKCYF473Z50
	C604	ELECTR. CAPACITOR	CEYA010M50
	C701-703	CERAMIC CAPACITOR	CKCYF473Z50
	C711, 712		RCH1044
	C713, 714		CFTXA563J50
	C715	ELECTR. CAPACITOR	CEAS221M25
	C717, 718	AXIAL CAPACITOR	CKPUYB101K50
	C719	ELECTR. CAPACITOR	CEYA100M50
	C722	ELECTR. CAPACITOR	CEYA010M50
	C723, 724		CFTXA563J50
	C725, 726		PCH1084
	C731, 732	CERAMIC CAPACITOR	CKCYF473Z50
	C733	ELECTR. CAPACITOR	CEAS472M25
	C734	ELECTR. CAPACITOR	CEAS101M25
	C735	ELECTR. CAPACITOR	CEAS102M6R3
	C736	ELECTR. CAPACITOR	CEAS102M16
	C737	ELECTR. CAPACITOR	CEAS222M16
	C741	CERAMIC CAPACITOR	CKCYF473Z50
	C742	ELECTR. CAPACITOR	CEAS101M50
	C743	CERAMIC CAPACITOR	CKCYF473Z50
	C744	ELECTR. CAPACITOR	CEAS101M50
	C745	CERAMIC CAPACITOR	CKCYF473Z50
	C751	ELECTR. CAPACITOR	CEAS4R7M50
	C752		CKPUYY103M16
	C753	ELECTR. CAPACITOR	CEAS330M35
	C855	ELECTR. CAPACITOR	CEAS101M25

RESISTORS

Mark	No.	Symbol & Description	Part No.
	R101, 102	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R103-108	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R109-124	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R153, 154	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
⚠	R155	FUSLIBLE RESISTOR	RFA1/4L☐☐☐J
	R157, 158	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R161-166	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R200-204	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R205-222	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R251-255	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R281-286	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R289-296	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R301	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R303, 304	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R305-308	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R309-326	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R327, 328	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R351-357	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R359	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R361	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R363, 364	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R381-383	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R401, 402	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R403-418	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R419, 420	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R421-429	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R431-434	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R501, 502	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R503	CARBONFILM RESISTOR	RD1/2PMF☐☐☐J
	R504-507	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R510	CARBONFILM RESISTOR	RD1/2LF☐☐☐J
	R511, 512	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R514-517	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R520, 521	CARBONFILM RESISTOR	RD1/2PMF☐☐☐J
	R551-553	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R555-559	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R601, 602	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R603, 604	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R607, 608	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R609-612	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R613, 614	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R615, 616	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	R701	CARBONFILM RESISTOR	RD1/2PMF☐☐☐J
	R703	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R705	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R709-712	CARBONFILM RESISTOR	RDR1/4PM☐☐☐J
	R741	CARBONFILM RESISTOR	RD1/2PMF☐☐☐J
⚠	R742	FUSLIBLE RESISTOR	RFA1/4L☐☐☐J
	R743	METAL OXIDE RESISTOR	RS1LMF☐☐☐J
	R751-759	CARBONFILM RESISTOR	RD1/6PM☐☐☐J
	VR101, 102	VR 4.7k-B	VRTS6VS472
	VR105, 106	20k-B	RCP1017
	VR281, 282	VR 22k-B	VRTB6VS223
	VR351, 352	VR 2.2k-B	VRTB6VS222
	VR401, 402	20k-B	RCP1017
	VR501	10k-B	VRTG6VS103
	VR502	47k-B	VRTG6VS473
	VR551, 552	10k-B	VRTG6VS103

OTHERS

Mark	No.	Symbol & Description	Part No.
	CN31		B8P-SHF-1AA
	CN41	JUMPER CONNECTOR 3-P	KPC3
	JA31	JACK	RKN1014

OPERATION UNIT

SEMICONDUCTORS

Mark	No.	Symbol & Description	Part No.
	Q814		DTA114ES
	Q815	DIGITAL TRANSISTOR	DTC114TS
	Q818	TRANSISTOR	2SA1309A
	Q819, 820		DTA114ES
	Q821, 822		DTC114ES
	Q823		DTA114ES
	D814-822	DIODE	1SS252
	D824	DIODE	1SS252
	D825		SEL2215S
	D826, 827	DIODE	1SS254
	D828, 829	DIODE	1SS252

SWITCHES

Mark	No.	Symbol & Description	Part No.
	S801-811	SWITCH	RSG1023
	S813-817	SWITCH	RSG1023
	S821	SWITCH(LINE STRAIGHT)	RSG-150
	S822	(DOLBY NR)	RSB1001
	S824	SWITCH(CALIBRATION)	RSG-150

CAPACITORS

Mark	No.	Symbol & Description	Part No.
	C821	ELECTR. CAPACITOR	CEAS330M35
	C822, 823	AXIAL CAPACITOR	CKPUYB821K50

RESISTORS

Mark	No.	Symbol & Description	Part No.
	R814	RESISTOR ARRAY	RA5T□□□J
	R815	CARBONFILM RESISTOR	RD1/6PM□□□J
	R821-828	CARBONFILM RESISTOR	RD1/6PM□□□J
	R975	CARBONFILM RESISTOR	RD1/6PM□□□J
	R977, 978	CARBONFILM RESISTOR	RDF1/4PU□□□J
	VR973	200k-B(REC BALANCE)	RCV1046
	VR974	5k-B(CALIBRATION)	RCV1044
	VR975	5k-B(CALIBRATION)	RCV1045

OTHERS

Mark	No.	Symbol & Description	Part No.
	V801	FL TUBE	RAW1043

CONTROL UNIT

SEMICONDUCTORS

Mark	No.	Symbol & Description	Part No.
	IC801		PD4211
	IC831		BA6109
	IC851		M5233L
	IC861		BA6109
	IC871		TC4050BP
	IC872		M5233L
	Q801-803		DTA114ES
	Q805-809		DTC114ES
	Q810-813		DTA114ES
	Q824		DTA114ES
	Q829		2SD1302
	Q831	DIGITAL TRANSISTOR	DTC114TS
	Q861	*TRANSISTOR*	2SA1309A
	Q862		2SA936
	Q863	TRANSISTOR	2SA1309A
	Q864	DIGITAL TRANSISTOR	DTC114TS
	D801, 802	DIODE	1SS254
	D804, 805	DIODE	1SS254
	D806-809	DIODE	1SS252
	D823		MTZJ9. 1A/B
	D841	DIODE	1SS254
	D843	DIODE	1SS254
⚠	D861		1SR35-100A
	D871-875	DIODE	1SS252

COILS/TRANSFORMERS

Mark	No.	Symbol & Description	Part No.
	L831		RTF1068

CAPACITORS

Mark	No.	Symbol & Description	Part No.
	C801, 802		CKPUYY103M16
	C803	ELECTR. CAPACITOR	CEAS102M6R3
	C824	ELECTR. CAPACITOR	CEAS101M10
	C825-827		CKPUYY103M16
	C831		CKPUYY103M16
	C832	CERAMIC CAPACITOR	CKCYF473Z50
	C851	AXIAL CAPACITOR	CKPUYB101K50
	C852	CERAMIC CAPACITOR	CGCYX473K25
	C853	ELECTR. CAPACITOR	CEAS220M50
	C861		CKPUYY103M16
	C862	ELECTR. CAPACITOR	CEANP4R7M35
	C863	ELECTR. CAPACITOR	CEASR22M50
	C864	ELECTR. CAPACITOR	CEAS330M35
	C871		CKPUYY103M16
	C872	CERAMIC CAPACITOR	CKCYF473Z50

RESISTORS

Mark	No.	Symbol & Description	Part No.
	R801	RESISTOR ARRAY	RA3T□□□J
	R802	RESISTOR ARRAY	RA6T□□□J
	R803	RESISTOR ARRAY	RA4T□□□J
	R804	CARBONFILM RESISTOR	RD1/6PM□□□J
	R805	RESISTOR ARRAY	RA10T□□□J
	R806	RESISTOR ARRAY	RA3T□□□J
	R807	RESISTOR ARRAY	RA11T□□□J
	R808-810	CARBONFILM RESISTOR	RD1/6PM□□□J
	R812, 813	CARBONFILM RESISTOR	RD1/6PM□□□J
	R816	CARBONFILM RESISTOR	RD1/6PM□□□J
	R818	CARBONFILM RESISTOR	RD1/6PM□□□J
	R829	CARBONFILM RESISTOR	RD1/6PM□□□J
	R831-833	CARBONFILM RESISTOR	RD1/6PM□□□J
	R841, 842	CARBONFILM RESISTOR	RD1/6PM□□□J
	R851-855	CARBONFILM RESISTOR	RD1/6PM□□□J
	R861	METAL OXIDE RESISTOR	RS1LMF□□□J
	R862-867	CARBONFILM RESISTOR	RD1/6PM□□□J
	R871	RESISTOR ARRAY	RA5T□□□J
	R872		RCX1020
	R873, 874		RN1/6PQ□□□□F

OTHERS

Mark	No.	Symbol & Description	Part No.
	X801	CERAMIC RESONATOR	VSS1014

TIMER UNIT

SWITCHES

Mark	No.	Symbol & Description	Part No.
	S981	(TIMER)	RSH1011

INPUT VR UNIT

RESISTORS

Mark	No.	Symbol & Description	Part No.
	R971, 972	CARBONFILM RESISTOR	RDR1/2PM□□□J
	VR971		RCV1047

OTHERS

Mark	No.	Symbol & Description	Part No.
	CN31	CONNECTOR	SSQ-8-A
	JA11	JACK	PKB1005

HEADPHONE UNIT

SEMICONDUCTORS

Mark	No.	Symbol & Description	Part No.
	IC901	OP-AMP, IC	M5218AP

CAPACITORS

Mark	No.	Symbol & Description	Part No.
	C901, 902	ELECTR. CAPACITOR	CEYA010M50
	C903, 904	ELECTR. CAPACITOR	PCH1076

RESISTORS

Mark	No.	Symbol & Description	Part No.
	R901-906	CARBONFILM RESISTOR	RD1/6PM□□□J
	R907, 908	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R909, 910	CARBONFILM RESISTOR	RD1/6PM□□□J
	VR901	20k-B(PHONES LEVEL)	RCV1043

OTHERS

Mark	No.	Symbol & Description	Part No.
	JA51	JACK	RKN1002

POWER SWITCH UNIT

SWITCHES

Mark	No.	Symbol & Description	Part No.
⚠	S991	SWITCH(POWER)	RSA-063

CAPACITORS

Mark	No.	Symbol & Description	Part No.
⚠	C991	CAPACITOR (CERAMIC)	VCG-044

7. ADJUSTMENTS

7.1. MECHANISM RELATED ADJUSTMENT

1. Tape Speed Adjustment

Mode	Adjustment Location	Specifications
PLAY	Capstan motor adjustment hole (Refer to Fig. 1.)	Adjust so that the playback frequency is 3015 ± 5 Hz at the beginning of winding of test tape STD-301.
PLAY		Playback test tape STD-301 again and confirm that the above specifications are satisfied.

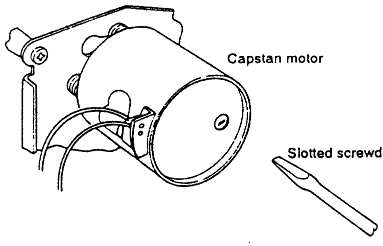


Fig. 1.

2. Adjustment of Door Damper

Adjustment Location	Specifications
Cylinder adjustment screw (Refer to Fig. 2.)	Make sure that the door opens smoothly, there is no two-stage motion, and that there is no bounding when it opens completely. (Perform with no cassette half inserted.)

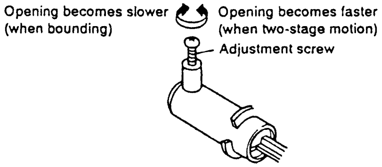

Opening becomes slower (when bounding)
Opening becomes faster (when two-stage motion)
Adjustment screw

Fig. 2.

7.2 ELECTRICAL ADJUSTMENTS

Adjustment Conditions

1. The mechanical adjustments must be completed first.
2. The head must be cleaned and demagnetized.
3. Turn power on allow the deck to warm up for at least a few minutes before commencing any electrical adjustments.
4. The reference signal is 0dBv=1Vrms.
5. Connect a 50 kΩ (or between 47k to 52 kΩ) load resistance to the OUTPUT terminals.
6. Unless otherwise specified, the switches listed below are left in the positions indicated.
   DOLBY NR : OFF
   TAPE SELECTOR : NORM

Test Tapes

STD-331B : Playback adjustments (See Fig. 7-1)
STD-630 : NORMAL blank tape
STD-620 : CrO₂ blank tape
STD-610 : METAL blank tape

List of Adjustments

Playback sections

1. Head azimuth adjustment.
2. Playback level adjustment.

Recording sections

1. Bias oscillator adjustment.
2. Recording bias adjustment.
3. Recording level adjustment.
4. Level meter adjustment.
5. DC balance adjustment
6. Recording level and recording bias calibration adjustment.

NOTE: This unit has an automatic tape selection feature.

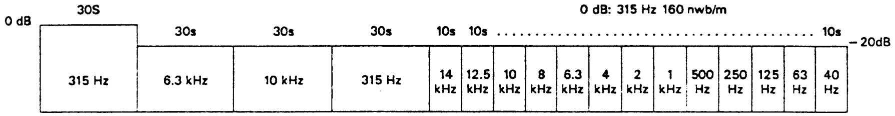


Fig. 7-1 Constants of the test tape STD-331B

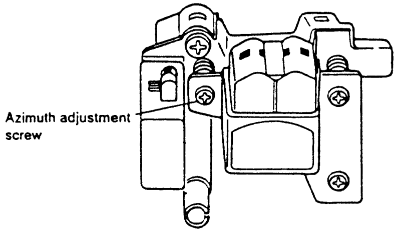


Fig. 7-2 Head azimuth adjustment

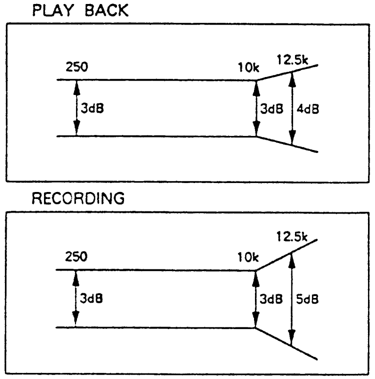


Fig. 7-3 Frequency response zone

PLAYBACK SECTION

1. Head Azimuth Adjustment

- Turn VR105, VR106 to mechanical center positions.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 10 kHz/−20 dB section of STD-331B test tape.	Head azimuth adjustment screw. (See Fig. 7-2)	LINE OUT	Maximum playback signal level.	
2.	STOP	Lock the screw with screw lock after completing adjustment.				

2. Playback level Adjustment

- This adjustment determines the DOLBY NR level, and must be performed with great care.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 315 Hz/0 dB section of the STD-331B test tape.	Deck I	VR105 (Lch) VR106 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	−14.7 dBv	

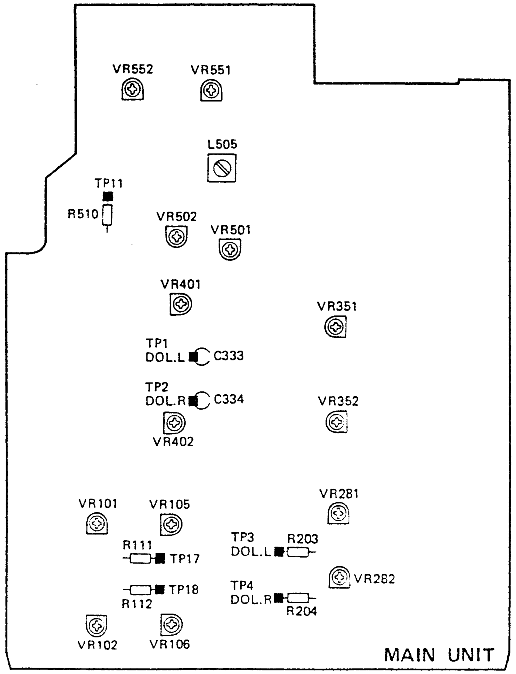


Fig. 7-4 Adjustment points

RECORDING SECTION

1. Bias Oscillator Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/PLAY	Load the STD-610 test tape with no input signal.	Deck I	L 505	TP. 11	106 kHz ± 300 Hz	

2. Recording Bias Adjustment

- Since the STD-630 recording bias adjustment determines the calibration standard, it should be performed carefully.

2-1. Overbias Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value		Remarks
1.	REC/ PAUSE	Apply a 6.3 kHz/10 dBv (−10VU meter reading) signal to the Line input terminals and insert STD-630.	—		LINE OUT	—		
2.	REC →PLAY	Record and play back the 6.3 kHz signal at −10 dBv input level.	NOR	VR551 (L) VR552 (R)		NOR	3.0 dB overbias	Turn control clockwise past the peak to assure proper overbias value.
3.		Record the 6.3 kHz/ −10 dBv signal on STD-620 and play back.	CrO₂	VR501 (L/R)		CrO₂	2.5 dB overbias	
4.		Record the 6.3kHz/ −10 dBv signal on STD-610 and play back.	METAL	VR502 (L/R)		METAL	1.0 dB overbias	
5.	Turn control clockwise past the peak to assure proper overbias value.							

2-2. Frequency Response Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 10kHz/315 Hz/ −20 dBv signal to the Line input terminals and insert STD-630.	—		LINE OUT	—	
2.	REC →PLAY	Record and play back the 315 Hz signal and a 10 kHz signal at −20 dBv input level.	NOR	VR551 (L) VR552 (R)		Record and play back repeatedly, comparing the 315 Hz and 10 kHz playback levels, and adjust to 0 ± 0.5 dB.	
3.		Record the 10 kHz/ 315 Hz, −20 dBv signal on STD-620 and play back.	CrO₂	VR501 (L/R)		0 ± 1.0 dB	
4.		Record the 10 kHz/ 315 Hz, −20 dBv signal on STD-610 and play back.	METAL	VR502 (L/R)		0 ± 1.0 dB	
5.	Check distortion value after adjustment is completed and confirm that there is no underbias.						

3. *Recording Level Adjustment*

- Since the STD-630 recording level adjustment determines the calibration standard, it should be performed carefully.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	STOP	Set the TAPE SELECTOR switch to the NORM position.				
2.	REC PAUSE	Apply a 315 Hz/0 dBv signal to the line input terminals, load the STD-630 test tape.	Rec Level control volume	TP. 3 (Lch) TP. 4 (Rch)	− 15.2 dBv	
3.	STOP	Set the DOLBY NR switch to the ON position. (DOLBY B)				
4.	REC/ PLAY	Record the above signal onto the STD-630 test tape, and playback.	Deck I VR401 (Lch) VR402 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Repeatedly record, playback and adjust so that the playback signal level becomes − 15.2 dB.	
5.	STOP	Set the TAPE SELECTOR switch to the CrO₂ position.				
6.	REC/ PLAY	Record the above signal onto the STD-620 test tape, and playback.	Check	TP. 3 (Lch) TP. 4 (Rch)	− 15.2 dBv ± 1.5 dB	
7.	STOP	Set the TAPE SELECTOR switch to the METAL position.				
8.	REC/ PLAY	Record the above signal onto the STD-610 test tape, and playback.	Check	TP. 3 (Lch) TP. 4 (Rch)	− 15.2 dBv ± 1.5 dB	

4. Level Meter Adjustment

- Adjust by turning clockwise until the lamp lights up.

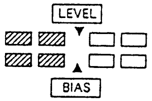
No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC PAUSE	Apply a 315 Hz/− 10 dBv (316 mV) signal to the Line Input terminals.	VR281 (Lch) VR282 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	Always set the enlarged mode when adjusting. Adjust so that the 0 dB segment lights at a level of − 15.2±0.5 dBv (− 15.2± 1.0 dBv in the normal mode).	

5. DC Balance Adjustment

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.			VR101 (Lch) VR102 (Rch)	TP17 (Lch) TP18 (Rch)	0V±0.2V	

6. Recording Level and Recording Bias Calibration Adjustment.

- This adjustment should be performed last.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PLAY	Load the STD-630. Calibration switch: ON Recording level calibration potentiometer: Center click position Recording bias calibration potentiometer: Center click position	LEVEL CAL. (400 Hz)	VR351	Level meter	The meter should light up to the LEVEL or BIAS arrow position.  Adjust to the point immediately before the segment to the right of the arrow lights.	
			BIAS CAL. (10 kHz)	VR352			

---

8. FOR HB TYPE

CONTRAST OF MISCELLANEOUS PARTS

NOTES :

- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

The CT−959/HB type is the same as the CT−959/HEM type with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		CT−959/ HEM type	CT−959/ HB type	
⚠	AC power cord	ADG1036	PDG1004	
	Operating instructions (French, Italian, Dutch, Swedish, Portuguese, Spanish)	RRD1078	······	

LINE VOLTAGE SELECTION

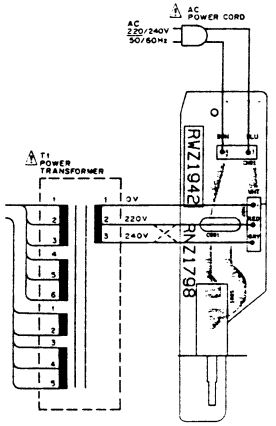
Line voltage can be changed with the following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the transformer wire (To POWER SW UNIT) of terminal CN92−2 and CN92−3 as follows.

Voltage	Terminal No. CN92−2	Terminal No. CN92−3
220V	RED	GRAY
240V	GRAY	RED

4. Stick the line voltage label on the rear panel.

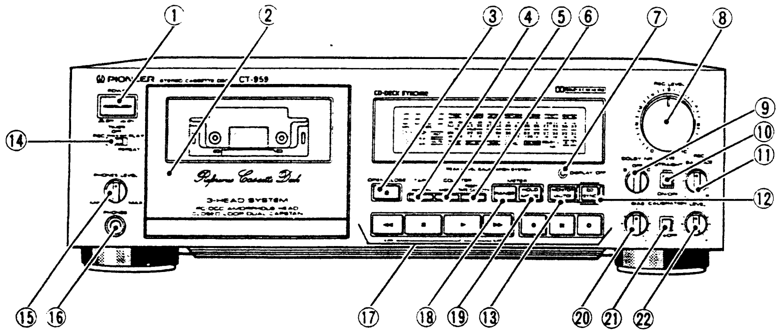
Parts NO.	Description
AAX−193	220V label
AAX−192	240V label



9. PANEL FACILITIES

Front panel

The illustration shows model CT-959



① POWER switch

② Cassette door

③ Cassette door OPEN/CLOSE button

④ TAPE RETURN button

When this button is pressed, the tape will be fast forwarded or reversed until the tape counter reaches the "0000" range.

⑤ COUNTER MODE button

When pressed, the mode will change in sequence.

- TAPE COUNTER
- TIME COUNTER (displays elapsed time of recording or playback)
- REMAIN counter (displays time remaining on the tape) (CT-959 only)

For CT-959

⑥ COUNTER RESET/TAPE CAPACITY button

This button resets the counter display when in the TAPE COUNTER or TIME COUNTER modes. In the REMAIN mode, tape type indication will change every time the button is pressed, for setting of the tape type to be used.

— C60→C46L→C90→C80L┐

For CT-757

⑥ COUNTER RESET button

This button resets the counter display when in the TAPE COUNTER or TIME COUNTER modes.

⑦ DISPLAY OFF button

To turn on/off the FL display.

⑧ REC LEVEL control knob

⑨ DOLBY* NR selector

To select Dolby type-B, type-C NR system and OFF.

*

- *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- *"Dolby", the double-D symbol ◫ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.*

⑩ LINE STRAIGHT button (CT-959 only)

Bypasses recording balance volume.

⑪ REC BALANCE knob

⑫ CD SYNCHRO button (CD SYNC)

For automatic operation when recording a CD from a Pioneer CD player compatible with the CD·DECK SYNCHRO function.

⑬ MONITOR (AUTO) selector

Switches SOURCE/TAPE sound when monitoring recording.

⑭ TIMER selector

REC: To record by timer.

OFF: To switch the timer or repeat functions off. Normally set to this position.

PLAY/REPEAT:
To play back by timer. When the switch is set to this position during normal playback, one side will be playec back repeatedly (repeat playback).

⑮ Headphones level knob (PHONES LEVEL)

⑯ Headphones jack (PHONES)

⑰ Operation buttons

Recording button (●):
When this button is pressed, the mode will change to one-touch recording Pause (recording standby).
Recording will be started with the Pause (❚❚) button or the Play (▶) button.

Pause button (❚❚):
When this button is pressed, recording or playback will be stopped temporarily. To resume recording/playback, press the button again. This function does not work during Fast Forward or Rewind mode.

Recording mute button (○):
Produces a blank space during recording.

Play button (▶):

Stop button (■):

Rewind button (◀◀):
To rewind a tape. When this button is pressed during playback, the song being played back is rewound to the beginning. When this button is pressed twice, the song being played back is rewound to the beginning of the previous song.

Fast Forward button (▶▶):
To fast forward a tape. When this button is pressed during playback, the song being played back is forwarded to the beginning of the next song. When this button is pressed twice, the song being played back is fast forwarded to the beginning of the song following the next song.

⑱ METER RANGE selector

Switches the scale range (wide/expanded) of the level meter.

⑲ METER HOLD MODE button

Switches between the mode where the peak level lights for 1.2 seconds and the mode where the peak level lighting is continuous.

⑳ CALIBRATION-BIAS control knob

Changes the sound by increasing/decreasing the recording bias.

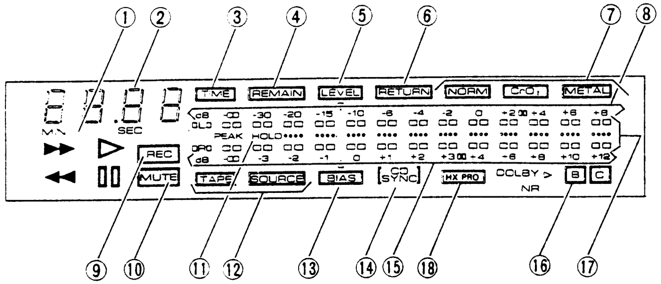
㉑ CALIBRATION-ON/OFF button

To set an optimum bias and level for the tape.

㉒ CALIBRATION-LEVEL control knob

Adjusts recording sensitivity according to the tape in use.

Indicator



① Travelling mode indicator

◀◀: Lights during rewinding mode.

▶: Lights during playback, playback/recording Pause, and recording mode. Blinks during MUSIC SEARCH mode.

▶▶: Lights during fast forward mode.

▮▮: Lights during pause mode.

② Counter dispays (TAPE, TIME etc)

- Displays in three modes (CT-757 is two modes).
- Displays the number of songs during MUSIC SEARCH mode.

③ TIME counter mode

The numbers are lighted during TIME COUNTER mode.

④ REMAIN mode (CT-959 only)

The numbers are lighted during REMAIN mode.

⑤ Recording level (LEVEL)

Lights when the CALIBRATION ON/OFF button is pressed.

⑥ Return mode (RETURN)

Lights during tape return operation.

⑦ Tape type (NORM, CrO_2, METAL)

Displays the tape type (NORMAL/CrO_2/METAL) detected.

⑧ Wide range meter scale

⑨ Recording (REC)

Lights during recording.

⑩ Muting (MUTE)

Blinks when muting the recording.

⑪ PEAK HOLD

Lights/goes off when the METER HOLD MODE button is turned ON/OFF.

⑫ Monitor source (TAPE/SOURCE)

TAPE: Sound of tape
SOURCE: Sound of source

⑬ Recording bias (BIAS)

Lights when the CALIBRATION ON/OFF button is pressed.

⑭ CD·DECK SYNCHRO (CD SYNC)

Lights when the CD·SYNCHRO function is functioning.

⑮ Expand range meter scale

⑯ DOLBY B-TYPE NR/C-TYPE NR

Displays either DOLBY B-type or C-type NR system.

⑰ Level meter

L: Left channel
R: Right channel
Holds peak indications for about 1.2 second. ▯▯ (double D) symbol beside the +3dB mark indicates the Dolby NR systems standard level.

⑱ Dolby HX PRO indicator

This unit is provided with a built in Dolby HX PRO Headroom Extension circuit. The Dolby HX PRO indicator always appears on the display when the POWER switch is turned on.

10. SPECIFICATIONS

System	4-track 2-channel stereo
Heads	Recording/playback head (Combined amorphous recording/amorphous playback head) × 1 Erasing head (Double-gap ferrite head with sendust) × 1
Motor	DC servo capstan motor × 1 DC reel motor × 1 DC assist motor × 1
Wow and flutter	0.022%(WRMS) ±0.052%(DIN)
Fast-winding time	Approx. 80 sec. (C-60 tape)
Frequency characteristics (−20 dB recording)	
Metal tape	15 Hz to 22,000 Hz
CrO_2 tape	15 Hz to 21,000 Hz
Normal tape	15 Hz to 21,000 Hz
Signal-to-Noise Ratio	
DOLBY NR OFF	More than 60 dB
Noise reduction effect	
DOLBY B-type NR ON	More than 10 dB(at 5 kHz)
DOLBY C-type NR ON	More than 19 dB(at 5 kHz)
Harmonic distortion	No More than 0.6%(0 dB)
Input	LINE: 60 mV (Input impedance: 47 kΩ)
Output	LINE: 316 mV (Output impedance: 1.8 kΩ) Head phones: 2.3 mW (Load impedance 8Ω, VR max.)

Miscellaneous

Power requirements	
European model	a.c. 220 V~, 50/60 Hz
U.K. model	a.c. 240 V~, 50/60 Hz
Power consumption	24W
Dimensions	420 (W) × 134.5 (H) × 370 (D) mm 16-9/16 (W) × 5-5/16 (H) × 14-9/16 (D) in.
Weight	approx. 3.4 kg (16 lb 7 oz)

Accessories

Operating instructions	1
Connection cord	2
CD·DECK SYNCHRO cord	1

NOTE:
Specifications and design subject to possible modifications without notice, due to improvements.

Functions

- 3-mode counter
- ATLC (Auto Tape Loose Canceler)
- Meter range (wide/expanded) selector
- AUTO MONITOR
- Power eject (OPEN/CLOSE)
- MUSIC SEARCH
- TAPE RETURN/RETURN Play
- Headphones jack (with level control)
- LINE STRAIGHT
- DISPLAY OFF
- CD·DECK SYNCHRO
- PEAK LEVEL CALIBRATION system
- REC CALIBRATION (BIAS/LEVEL, built-in oscillator)
- MPX filter switch
- AUTO RECORDING MUTE
- Auto tape selector
- Timer start function recording/playback • REPEAT playback
- Dolby B-type and C-type Noise Reduction systems
- Dolby HX-PRO system
- Level meter: 2-mode PEAK HOLD selector